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NEW YORK — SATURDAY, JULY 4, 1903 — CHICAGO

10 CENTS

## Results of the Gordon Bennett Race.

Rene de Knyff of French Team finishes First, but Jenatzy in German Car, who came in Second, is Unofficially declared the Winner on the basis of Fastest Time.

WHEN Jenatzy, driving a 60-horse power Mercedes car crossed the finish line in second place in the Gordon Bennett race at Ballyshannon, Ireland, last Thursday, unofficial scorers conceded that he had won the trophy for Germany. In order of arrival Rene de Knyff came in first at 5.35 p. m., just two minutes ahead of the German driver, but as he had to allow the latter 14 minutes at the start, it was easily figured that Jenatzy had succeeded in "lifting" the cup over the Rhine. Accidents and ill luck had previously eliminated the chances of the English or American teams winning, and the race had narrowed down to a three-cornered duel between de Knyff and Gabriel of the French team and Jenatzy of the German contestants. At this time of writing the official times taken at the several controls have not been figured out, so that some deductions may yet have

to be made, but the result as reported is generally conceded by the experts who have followed the progress of the racers. The winner's time over the 368 miles 765 yards of the course was, approximately, 10 hours and 8 minutes. To Americans, and no doubt to the British followers of the sport, the showing made by their respective teams was very disappointing. That the cup goes to Germany, however, gives new interest to the great annual race, for in the previous contests France and England have been the winners. The start

from the Ballyshannon cross roads was in the following order: (1) S. F. Edge, England, Napier Car, 7.00 A. M. (2) Rene de Knyff, France, Panhard Car, 7.07 A. M. (3) Percy Owen, United States, Winton Car, 7.14 A. M. (4) M. Jenatzy, Germany, Mercedes Car, 7.21 A. M. (5) C. Jarrott, England, Napier Car, 7.28 A. M. (6) M. Gabriel, France, Mors Car, 7.35 A. M. (7) L. P. Mooers, United States, Peerless Car, 7.45 A. M. (8) Baron de Caters, Germany, Mercedes Car, 7.49 A. M. (9) J. W. Stocks, England, Napier Car, 7.56 A. M. (10) M. Farman, France, Panhard Car, 8.03 A. M. (11) Alexander Winton, United States, Winton Car (pushed over the line, but did not start until 8.50 A. M.), 8.10 A. M. (12) Foxhall Keene, Germany, Mercedes Car, 8.17 A. M. The Americans had trouble from the start. Winton, who should have started third, had trouble with his carbureter, and his place was taken by Owen. At 8.10 Winton's car was pushed across the line for the official start, but it was forty



THE FAMOUS GORDON BENNETT TROPHY NOW ON EXHIBITION IN DUBLIN, IRELAND.

minutes later before he was able to get away, and meanwhile four of the contestants who had started among the leaders finished their first lap. Winton reached the control at Athy at 9.54, having lost thirty five minutes through clogging of the inlet valve of his carburetor with dirt in the gasoline.

Mooers lost several seconds at the start, making a blunder in engaging his clutch while the brakes were still set. He had a succession of troubles with his machine after the race started, various reports stating that he lost a pin from the change speed gears, that he struck a bank at a sharp turn near Maryboro early in the race, breaking a gear, and that two tires came off. Mooers escaped unhurt, but had to withdraw from the contest.

Owen, too, was a little slow in getting away, first of the American team and cheered by the American onlookers. He also had trouble with his car, being overtaken and passed in the grand stand stretch by Jenatzy going at more than seventy miles an hour.

The English team had as bad luck as the American. The favorite, Charles Jarrott, was thrown out near Stradbally and had his collar bone broken, while his mechanic, Bianci, was caught under the overturned car and had his leg crushed and was seriously injured internally. The accident was first reported to have occurred through attempting to take a turn too short and fast, but later advices state that while descending a hill his car broke in two. Despite his broken shoulder, Jarrott lifted Bianci from under the wreck.

Baron de Caters, who was following close behind, narrowly missed running into the wreck. The German driver stopped to see how badly the Englishman was hurt, losing several seconds, and, to allay the anxiety of Jarrott's friends, stopped at the grand stand as he passed to tell them that the injuries were not serious. This act of sportsmanship won the Baron loud cheers. Jarrott, too, showed himself a sportsman, as, when he withdrew from the race, he asked the newspaper men to pass lightly over his accident in order not to spoil the interest and enjoyment of the spectators.

Stocks ran off the course onto a wrong road and into a wire fence, and, though himself escaping without injuries, a wheel on his Napier was broken and he, too, had to retire.

Edge, third member of the English team, and winner of the cup last year, who was first of all to start, is reported to have had some trouble with his change speed gear near Athy, but was able to continue in the race and finished his fifth circuit at 3.34. He was also reported to have burst two tires.

Foxhall Keene, the American who drove a 60-horse power Mercedes on the German team, made a fine showing through about half of the contest, being second to De Knyff at Ballyshannon at the finish of the third circuit. On the next lap, however, he

had trouble with his engine, and on dismounting to examine it he made the fortunate discovery that one of the axles was fractured and on the point of giving way. Naturally, he, too, pulled out. It was very disappointing, as he had made the best gross time on the first lap, and finished his third circuit at 12.54, his elapsed time being 4:37 from the start.

After the first circuit the Belgian, Jenatzy, driving a Mercedes, made each round in the fastest time. He made the best start of all, leading off for the German team with a fine flying start in fourth place, and drove throughout with consummate nerve, doing each successive round in almost the same time as the preceding one. He steadily gained on De Knyff, who had started fourteen minutes ahead of him, until at the close of the race he was only two minutes behind the Frenchman.

De Knyff, however, had not been letting any weeds sprout under his wheels, but had gone through in his big Panhard apparently without a hitch, turning off miles at the rate of sixty-four to the hour in favored stretches. He drove in a determined manner, and in the first 150 miles had passed Edge, who was the only Englishman left in the race. The fight was now between Germany and France, Winton and Owen being far behind. Entering the third loop the French driver was first.

An hour and a half before the finish it was apparent that the race was between Jenatzy, De Knyff and Gabriel. Although Gabriel, of the French team, did not get a very quick start, he soon got into a good swing and kept well to the front throughout, but Henry Farman, also of the French team, made a long, hard dash near the close of the race and stole his chances away, himself running de Knyff close for second place on a time basis.

Unofficial computations seem to give the Montagu cup, for team work, to the French team.

An enormous crowd gathered to see the contest, aggregating several hundred thousands. They began to gather at the Kingsbridge station in Dublin as early as 2 A. M., and by the time the gates opened 5,000 were besieging it and fought for seats in the first train. Trains were dispatched as rapidly as possibly until the race was under way.

Following five successive days of rain, the weather cleared up and was ideal in the morning and at the start of the race, but later on it began raining again, and the contest finished in a downpour.

Many of the spectators and those connected with the contest remained up all night at the important controls, while others slept in tents, wagons and any makeshift place.

The course was excellently guarded by 6,000 men of the Royal Irish constabulary, reducing to a minimum all danger to spectators and contestants. Every precaution had been taken to prevent accidents, even to treating parts of the course with oil to

lay the dust, but under a broiling sun and the traffic of hundreds of automobiles, a thick layer of dust was created in places, which was raised in clouds as the racing cars passed over at speeds from sixty to seventy miles an hour. In other places the oil had been put on so thick that it lay in pools. L. P. Mooers expressed considerable dissatisfaction with the condition of the course on this account.

Two pilot cars were sent over the course in opposite directions at 6 o'clock, an hour before the official start, which was made promptly on time. Edge, in his big Napier, was prompt at the line and got away in good style at the shot of the pistol. De Knyff, who started across at 7.14, in a big Panhard, made a fair start amid great enthusiasm in the groups of French spectators. Owen, who traded places with Winton, and was the first of the Americans to leave, was slow in getting away. He had said that he would run a safe race. The best start of all was made by Jenatzy.

Among the multiplicity of arrangements necessary for the successful carrying out of the great international race, the detail of weighing the cars was of prime importance. Under the rules of the contest the cars were limited in weight to 1,000 kilos, or 2,204.62 pounds, weighed without water, gasoline or batteries. As no accurate weighing apparatus was located on or near the course it was decided to use two small platform scales; these were placed facing each other and on the top of the scale beds two channel irons were laid, the cars being run up on these, the tires fitting in the channel irons. The intention was to weigh the cars at Naas on July 1, and then transfer the scales to the starting point where the cars would be re-weighed immediately after the race.

To make it possible for Fernand Gabriel to compete in the race as a member of the French team, he was elected a member of the Automobile Club of France on June 13. He takes the place of Henry Fournier.

The Oshkosh, Wis., council has passed an eight-mile speed ordinance.

It is proposed at Little Rock, Ark., to connect the street car lines on the north and south sides of the river by an automobile line. Prominent business men have organized a company with a capital of \$10,000 to begin. Two motor cars carrying from twenty to thirty passengers each will be purchased.

While D. Daniel, a great horse fancier of Hartford, was out driving with his wife behind a fast horse recently, the animal was seized with a fit and fell, smashing the vehicle. The next day the following advertisement appeared in the local papers:

FOR SALE—One cob horse, one Bailey surrey, one Hancock Rockaway. Apply to D. Daniel, who is going to buy an automobile.



## Movement to Have Federal Tax Removed from Denaturized Alcohol.

Alcohol as a fuel in the internal-combustion engine has never received anything like the attention in this country that it has abroad, and especially in France. Two causes have operated to produce this condition, first, the prohibitive price of alcohol, owing to government taxation and, second, the abundant natural sources of supply of petroleum in the United States. In most of the European countries the conditions are exactly reversed, and statesmanship has there directed effort to foster the use of the organic fuel so that the farmer rather than the importer shall be benefited.

### FREE ALCOHOL IN THE ARTS.

The subject has not been entirely neglected on this side, however, for there has long been an agitation among the industries using alcohol in manufacturing to have passed by Congress amended laws that will permit the use of untaxed denaturized alcohol in the arts. To succeed in this, it is necessary to prepare a plan that will make a free use of alcohol in the arts possible and yet will not diminish the revenues of the government from the use of alcohol as a beverage or intoxicant.

This movement has now crystalized in a bill to be presented at the next session of Congress, the text of which is here reprinted:

### PROPOSED BILL.

TO PROVIDE FOR UNTAXED DENATURIZED ALCOHOL FOR USE IN MANUFACTURING, AND FOR BURNING, HEATING, LIGHTING AND OTHER LIKE PURPOSES.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That distilled spirits of an alcoholic strength of not less than one hundred and sixty per centum proof, as defined by Sections thirty-two and forty-nine of the Revised Statutes of the United States, may, when rendered unfit for drinking purposes, or for use as a beverage, be removed from distillery warehouses free of tax under such regulations as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall prescribe: PROVIDED, That wood alcohol, methyl alcohol, wood naphtha, or other substances approved by the Commissioner of Internal Revenue and the Secretary of the Treasury, shall be mixed with such distilled spirits as to render the same unfit for drinking purposes, or for use as a beverage: AND PROVIDED FURTHER, That this act shall only apply to distilled spirits produced or manufactured in distilleries having a registered daily capacity of at least four thousand proof gallons.

Sec. 2.—That distilled spirits before being removed from distillery warehouses free of tax under the provisions of this act, shall be marked or branded as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall prescribe, and shall have affixed to each cask or package an engraved stamp indicating that such distilled spirits have been rendered unfit for drinking purposes, or for use as a beverage, said stamps to be provided and furnished by the several Collectors, as in the case of other stamps, and to be charged to them and ac-

counted for in the same manner; and for the expense attending the providing and affixing of such stamps, ten cents for each stamp shall be paid to the Collector of the District on making the entry for such removal.

Sec. 3.—That any person who shall rectify or purify distilled spirits which have been removed from distillery warehouses free of tax under the provisions of this act, by removing or separating the wood alcohol, methyl alcohol, wood naphtha, or other substances from such distilled spirits, by any process whatever, shall, on conviction, be subject to a fine of not less than five hundred dollars nor more than five thousand dollars, and be imprisoned not less than six months nor more than three years.

Sec. 4.—That distilled spirits, removed free of tax from distillery warehouses under the provisions of this act, shall not be stored or deposited on any premises in which the business of a distiller, rectifier, wholesale liquor dealer, or retail liquor dealer is carried on, or on any premises connected therewith by any private or internal communication. And every distiller, rectifier, wholesale liquor dealer, and retail liquor dealer, who shall store or deposit, or cause to be stored or deposited, such distilled spirits on the premises in which such business is carried on, after such distilled spirits have been removed from distillery warehouses, shall on conviction be fined not less than two hundred dollars nor more than one thousand dollars, and imprisoned for not less than six months nor more than two years.

### BILL PREPARED IN NEW YORK.

This bill was prepared by a New York firm of attorneys, Messrs. Allen & Graham, who have for several years past been closely identified with the movement to secure more favorable legislation in regard to alcohol used in the arts. Among the interests that have already joined the movement are manufacturers of chemicals, varnish, flavoring extracts, hats, smokeless powder, perfumery, and photographic materials. Now the co-operation of the automobile interests is sought.

The suggested amendment has friends in Congress as well as outside, and United States Commissioner of Internal Revenue Yerkes and Congressman Payne, Chairman of the Ways and Means Committee, advocate changes in the internal revenue laws. These are as set forth in the proposed law and also include the reduction of the beverage spirit tax from the present rate of \$1.10 per proof gallon to 70 cents a gallon.

### PLAN NOT REVOLUTIONARY.

To many persons who have not looked into the question the plan proposed would seem almost revolutionary. A retrospective glance at the history of the internal revenue taxation will, however, show that it would merely mean an approach to the conditions that existed in this country before the war.

For a period of nearly fifty years prior to 1860 the distillation of spirits in the United States was free from all specific taxation or supervision by either the Fed-

eral or State Governments. It was produced chiefly from Indian corn in the sections where corn was grown, and was also made, to a large extent, from corn that was damaged and unmarketable as grain. The average market price of spirits in New York for the four years preceding 1862 was about 23 cents a proof gallon, and the minimum price about 14 cents. The consumption at that time for industrial purposes was enormous. For the year ending June, 1860, the product of distilled spirits including alcohol in the United States reached the total of 90,412,581 gallons. The total number of gallons on which tax was paid during the last fiscal year was 104,110,195 proof gallons; a very small increase, considering the enormous growth of manufacturing interests of the country in the intervening forty years. The cheapness of spirits before the war caused its employment in large quantities for various purposes which were then practically unknown in Europe, where the price was at the time very high on account of the internal revenue taxes in the various countries. Since that time, however, there has been a scaling down in the rate of taxation on spirits used in the arts in Europe, while here the tax has been steadily maintained. The result has been that in Europe the use of alcohol in the arts has enormously increased whereas on this side it has diminished to an almost insignificant amount when the possible applications of it in manufacturing work are considered.

It is not a matter of surprise therefore, that the alcohol motor is a practical machine in Europe, while here it has, commercially, not gotten beyond the experimental stage. In the period before the war, alcohol was used very extensively in the manufacture of a cheap illuminating agent known as "burning fluid," which was composed of one part of rectified spirits of turpentine mixed with from four to five parts of alcohol. The use of this fluid ceased almost immediately upon the imposition of the internal revenue tax, as a rise in the price of alcohol from about 40 cents to \$4. a gallon made its cost prohibitive. About this time the discovery and utilization of petroleum in commercial quantities supplied the place occupied by the burning fluid, and this has continued down to the present day.

### PROHIBITIVE PRICE OF ALCOHOL.

The serious disadvantage that our manufacturers labor under owing to the present prohibitive price of alcohol is recognized and understood by the U. S. revenue officials. That they are not unanimous in advocating a change is due largely to a fear that the removal of the tax from denaturized alcohol would cause extensive frauds and loss of revenue. This is because it is very difficult to denaturize spirits, so that by a process of redistillation the pure alcohol may not be recovered from the undrinkable mixture. There is, we believe, no known process whereby the

pure grain alcohol ( $C_2H_5.OH$ ) can be so changed in its chemical composition as to make it impossible, by any subsequent process, to convert it into drinkable spirits. To make this clear, a glance at the chemical side of the problem is interesting.

#### CHEMICAL SIDE OF THE QUESTION.

There are two kinds of alcohol sold in commercial quantities in the United States. These are methyl alcohol ( $CH_3.OH$ ) made by the destructive distillation of wood and commonly known as wood alcohol. This is extensively used in the arts and is highly poisonous. Its manufacture is, of course, limited by the natural supplies of wood suitable for its production. Birch is the best wood for the purpose, and then in order of their value come beech, alder and oak. It is free from taxation and usually

large scale would be probably more difficult than the illicit manufacture of drinkable spirits from grain or vegetables.

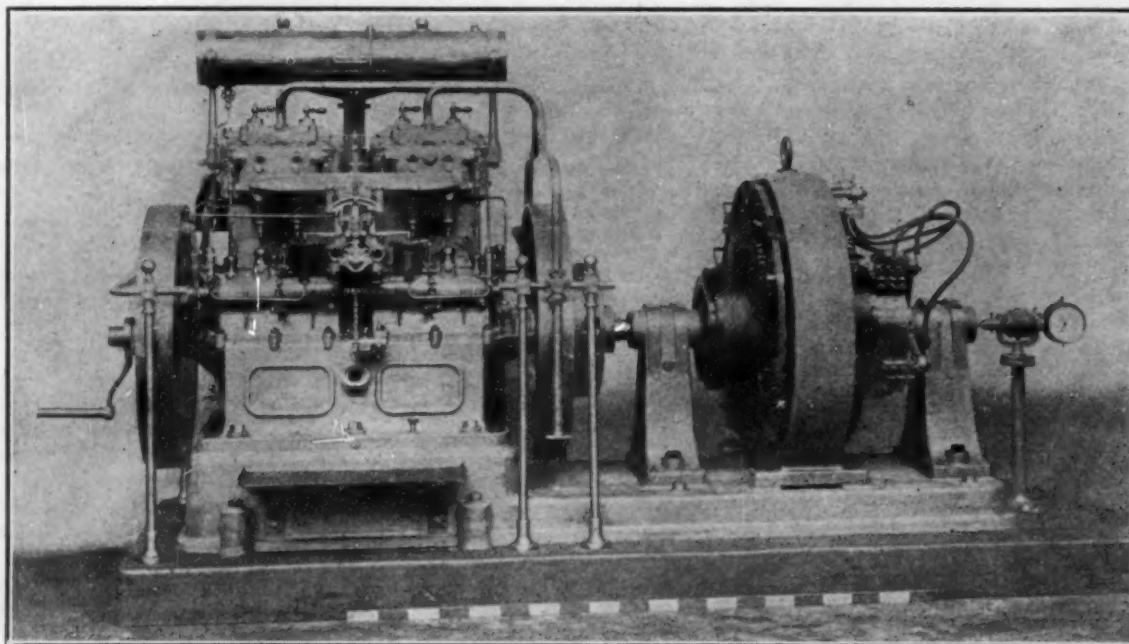
#### TO PROTECT GOVERNMENT REVENUES.

The advocates of free denaturized spirits recognize these conditions, and to more thoroughly protect the government revenues, the reduction of the tax on grain alcohol from \$1.10 a proof gallon to 70 cents is proposed. It is argued that the increased consumption would be sufficient to more than make up the loss of revenue due to the lowering of the tax. The low price of drinkable alcohol would also make it unprofitable for any person to attempt the purification of denaturized spirits for use as a beverage.

Abroad there is a steady increase in the use of alcohol as fuel in internal-com-

fuel in internal-combustion engines is receiving special attention there by such makers as Daimler, Dürr and Deutz. A typical alcohol engine is shown in the accompanying engraving. This engine was designed by Director Boris Loutzkey of the Russian naval engineering department, and was built by the Daimler Motor Co. at Marienfelde. It is direct connected to an electric generator. Under tests it developed 61 horse-power at 650 revolutions and the speed variation, from no load to full load, did not exceed 3 per cent. The fuel consumption varied from 0.45 to 0.05 liter (1 liter is equal to 1.05 quarts per horse power hour. The tax on alcohol in Germany is only 50 cents a gallon.

In Russia, the internal revenue tax has been removed when alcohol is used for in-



LOUTZKEY-DAIMLER 50 H.P. ALCOHOL MOTOR DIRECT CONNECTED TO ELECTRIC GENERATOR.

sells in the market at about 65 to 90 cents a gallon.

The other spirit is ethyl alcohol made from grain ( $C_2H_5.OH$ ) now used chiefly in the manufacture of whiskey for drinking purposes. This sells for \$2.35 a gallon, of which \$2.08 represents the internal revenue tax, leaving the actual cost of the spirit as 27 cents a gallon.

The denaturized alcohol from which it is proposed to take off the revenue tax is made by the addition of wood alcohol or some of the lighter hydro-carbon oils to the grain alcohol. In England such a mixture is composed of 90 per cent. of ethyl alcohol and 10 per cent. of commercial wood alcohol, which is sold under the name of methylated spirit and is free of tax. By an expensive process of treatment, which includes distillation, a spirit can be obtained from this mixture sufficiently pure to use in the manufacture of low grade whiskey and rum. The process is, however, a difficult one and on a

bustion engines. In the Paris-Madrid race the powerful Gobron-Brillie cars were fitted with alcohol motors and even the conservative Panhard factory used this fuel in racing cars entered in the great race. At the last Paris Automobile Show there was an extensive section devoted to alcohol, which had the active co-operation of M. Georges Famechon, the French Minister of Agriculture. Among the exhibits were a number of stationary engines using alcohol as fuel and a very extensive display of lighting apparatus. Lamps of almost every variety were shown using alcohol as an illuminant in conjunction with burners of the Welsbach type.

#### USE OF ALCOHOL IN GERMANY.

In Germany the use of alcohol is on an enormous scale, and, in fact, that country leads in most of the industries in which alcohol is extensively employed. As the climate is not suited to the cultivation of Indian corn, the potato is widely used for the production of alcohol. The use of the

dustrial purposes. In the Russian Navy alcohol boat motors have been used in units as large as 300 horse power with highly successful results.

#### REBATE CLAUSE INEFFECTIVE.

An unsuccessful attempt to permit the use of alcohol in the arts free of tax was made by the insertion of a clause in the U. S. General Revenue Act of 1894, permitting the payment of rebates by the Secretary of the Treasury to manufacturers who had so used alcohol. Owing to difficulties encountered in the application of this concession in practice it has never been in operation and affords no relief. It is doubtful, too, if under any circumstances it would be applicable to the construction and use of alcohol motors.

Nashua, N. H., has passed an ordinance requiring two lighted lamps on all automobiles after dark, and limiting speed to six miles within the compact parts of the city.



## Proposed System of Boulevards and Parkways in Philadelphia.

The project to provide Philadelphia with a system of parkways and boulevards has at last taken tangible form. The plans which have been advocated by the various art associations have, after many years, been taken up by the city councils and before long it is believed that Philadelphia will be equipped with a network of beautiful roadways that will rival any similar municipal improvement in the world.

The most important of the contemplated boulevards is the Parkway, which will extend from the City Hall, at Broad and Market Streets, the business center of the city, to Fairmount Park, a distance of a little over a mile. From the City Hall to Logan Square, where the thoroughfare will run through the residential portion of the city, its width will be 160 feet. Beginning at the other side of Logan Square it will vary in width from 300 to 600 feet, increasing as it approaches the park.

The principal feature of the parkway in its entirety will be its great simplicity. It will closely follow the French idea, as shown in the artistic effects in the Bois de Boulogne. It will have a broad roadway, unbroken from curb to curb, flanked by solid rows of trees, edging the grass plats and granolithic paving. Logan Square will be changed to a broad circle and will be used as a site for architectural and landscape adornments. At the terminus at Fairmount Park, where the parkway will broaden out into a plaza, will be Washington monument on the one side and the proposed McKinley monument on the other. Directly facing the boulevard will be a magnificent art museum surmounting the present site of the Fairmount reservoir.

It is estimated that the parkway, when completed, will cost between \$8,000,000 and \$10,000,000. The councils have already ordered the boulevard to be placed on the city plan and the work of construction will probably be begun in the fall.

The second project, known as the Northeast or Torresdale boulevard, will be more utilitarian in its purpose, although it will greatly add to the scheme of beautifying the city. It will start from Broad Street, at a point four miles north of the City Hall, and will run ten miles northeastward to Torresdale. It will pass mainly through undeveloped territory, touching suburbs at present remote from the main arteries of travel. The boulevard will have a uniform width of 300 feet.

One of the principal features of the thoroughfare will be the fifty-foot macadamized automobile road. The growing popularity of mechanical vehicles has led the designers of the boulevard to make special provision for them. The road will be reserved for their use and its comple-

tion is awaited with great interest by motorists, as it will form a much-needed link between Philadelphia and the Bristol pike, leading to Trenton and New York.

The boulevard will have thirty feet of footways on either side, two thirty-foot roads for business traffic, a sixteen-foot bridal path, a driveway thirty feet wide and the remaining space will be reserved for a double line of trolley cars. The Torresdale boulevard, when completed, will cost between \$6,000,000 and \$8,000,000. Owing to the number of interests that have been brought to bear on the project, the Torresdale boulevard will probably be opened long before the others. The engineers of the city survey bureau are now



BOULEVARD SCHEME FOR PHILADELPHIA.

at work on the plans, and the first two miles of the boulevard have been staked off.

The residents of the southern section of the city are trying to have the city councils adopt a scheme of boulevards which will greatly enhance the beauty and increase property values in that part of the city. At the lower end of Broad Street, the longest paved street in the world, it is proposed to construct a system of diverging diagonal avenues 160 feet wide. At the point of divergence Broad Street will be widened into a square plaza, taking in four city blocks. This will extend half way to League Island, and at the junc-

tion with League Island Park the road will be narrowed to the width of Broad Street—100 feet.

From the upper end of the plaza, diagonal roads will extend to the southeast and southwest. These diverging roads will be criss-crossed by similar roads and the present gridiron system of the city's streets will be completely broken up by bisections.

There has also been an agitation afoot by the residents of West Philadelphia for some years to reclaim a portion of the west bank of the Schuylkill River, south of Market Street. The bank of the river is unoccupied for nearly its entire length, and it is the intention of the promoters of this project to construct asphalt or macadamized roads along the riverside extending around the southwestern side of the city. The advocates of the scheme plan to have the roadways extend from League Island to Fairmount Park, making a continuous road, many miles in length.

### A Field for Motor Cycles in Amsterdam.

There is at present no American automobile trade in Amsterdam, according to Consul Hill. While American machines are somewhat higher in price than those of Continental manufacturers, it cannot be said that this would prove a serious drawback. One objection is, however, the model. The style of machine most preferred seems to be the one known as the Duc, and is something like an open wagonette with one wide seat in front, and two side seats behind, seating, as a rule, six persons. The fuel used is benzine; the tires are all double tubes, of the Dunlop or Continental type, while the machine itself is very heavy. American manufacturers, according to the Consul, will do more business in motorcycles for a time than in automobiles. The price, however, is a consideration. A first class motorcycle of Continental manufacture can be purchased by the wholesaler for \$90 f.o.b. Amsterdam, while practically the same machine of American make will cost f.o.b. vessel, New York, from \$130 to \$150. This is, however, the field for several years to come, and the motorcycle, being very popular in Amsterdam, and coming as it does within the reach of so many persons, is bound to have a sale far larger than that of the automobile.

The manner of introduction is exceedingly important, and in order to gain this trade, the manufacturer must change his present method radically. He must make up his mind at the start that there are two sides to the question, and instead of demanding "cash documents in New York," he must be willing to give his agent some assistance and treat him in the same manner that he would were he placing the same agency in the United States. There is no more risk in doing that in Amsterdam than here, if proper precautions are used.

## Managing the "Train Balladeur."

### Hints on the Correct Operation of the Sliding Gear Train of the Gasoline Vehicle for the Beginner.

The general characteristics of the sliding gear train, or *train balladeur*, as the French call it, are well known. The primary shaft, driven from the motor through a clutch located in the flywheel, is squared or splined, and carries a set of from two to four gears, sliding on the primary shaft and so spaced as to mesh one at a time with corresponding gears rigidly fastened to the secondary shaft. If there are four pairs of gears, those on the primary shaft are sometimes grouped in twos, each group sliding independently of the other, so that it is not necessary to pass through the intermediate speeds in getting from the highest down to the lowest or first speed. Occasionally with four speeds, and very often with three, the driving and driven shafts are co-axial, and are coupled by a claw clutch for the high speed. The secondary shaft then carries a gear permanently in mesh with a pinion on the driving shaft, and other fixed gears through which power is transmitted to the sliding pair (on the driven shaft in this case) for the first and second speeds. On the high speed the secondary shaft transmits no power.

The essential feature of the *train balladeur* is that the gears are meshed abruptly. Suppose that there are four speeds, and that in the high or fourth speed the shafts turn at the same speed. Then the gear ratio for the four speeds will be approximately 1 to 4, 2 to 4, 3 to 4, and 4 to 4, and the shaft velocities will be inversely as the diameters of the gears in mesh. That is, in the first or lowest speed the driven shaft will turn at one-quarter the speed of the primary shaft and motor. Now, suppose one has started the car with the first speed in mesh. To obtain the second speed the speed of the secondary shaft must be doubled, or that of the primary shaft decreased one-half, else the gears cannot engage. Again, this change in the relative speed of the shafts must be brought about, wholly or in part, by the mere impact of the gear teeth striking each other; and the shock thus produced must not be more than the teeth can stand without breaking. But the secondary shaft is turning in a fixed relation—through gears or chains—to the speed of the car, and the inertia of the latter is too great to be abruptly changed. Again, the inertia of the revolving flywheel of the motor is likewise too great for a sudden change. Consequently the only method possible is to disconnect the clutch, and allow the primary shaft to turn freely and take upon itself the whole change of speed, with no more resistance than that due to its own inertia and that of the clutch member attached to it.

#### RELEASING THE CLUTCH.

This procedure, then,—of releasing the clutch, shifting the gears, and re-engaging

the clutch, allowing it to slip till the motor speed and that of the primary shaft have again been equalized, is invariable and necessary with a shift of gears in the *train balladeur*. Neglect of it will usually result in breaking out the teeth of the gears, with a formidable repair bill to follow. It is partly for this reason that most cars using this system have clutches arranged to release by pressure on a pedal, and re-engage by a spring. Releasing such a clutch is so easy that there is little excuse for forgetting it; but many builders prefer to make their machines fool-proof by adding interlocking devices which prevent any shift of gears till the clutch is fully released.

#### MANIPULATION ON HILLS.

Though releasing the clutch is the prime essential, it is not quite all that the careful chauffeur can do to save his gears; and the careless chauffeur can sometimes manage to wreck his gears even with the clutch released. Suppose, for example, that one is ascending a hill on the second speed, and it becomes necessary to drop back to the first. The motor is turning, say, 400 r. p. m., or about the slowest speed at which it will run to advantage, and the secondary shaft is turning 200 r. p. m. Assuming the latter speed to remain unchanged during the process of shifting, the speed of the primary shaft must be increased to 800 r. p. m. before the first-speed gears can mesh. In point of fact, the secondary shaft loses speed from the moment that the clutch is released, on account of the hill; while the primary shaft, when disengaged from the secondary, is losing speed from friction, but less rapidly. Meanwhile the motor, relieved of its load, is gaining speed up to a point determined by the governor or the manual control. For these reasons it is sometimes feasible, in order to lessen the shock of engagement, to allow the car to "coast" a short distance after disengaging the gears and before engaging those of the lower speed; but it is usually better to allow the clutch to engage for an instant before meshing to accelerate the primary shaft.

The former trick is a bit risky on a hill, as it may result in stalling the car; but the latter is always safe provided judgment be used as to the degree of acceleration given the primary shaft. The beginner should never let his car coast on the level or down hill with gears and clutch both "out," because then the primary shaft will come to rest sooner than the car, defeating the object aimed at, and inviting destruction of the gears when an attempt is made to mesh them. Such a mischance may be averted by engaging the clutch for a moment before meshing, but this detail is easily forgotten, and in general the maneuver described is

best left to the expert operator who is looking for records.

#### PROCESS OF GEARING UP.

The process of gearing up is evidently the reverse of gearing down. Here the primary shaft is to be retarded, and the secondary shaft is losing speed much more slowly than under the conditions attendant on gearing down. The inertia to be overcome, however, is the same. Evidently there is nothing in the usual arrangement of the several parts by which this relative change in velocity may be assisted. Even delay before meshing will accomplish nothing. The only thing to do, therefore, is to release the clutch and shift the gears as quickly as possible, allowing them to grind before meshing as little as may be. With a light clutch and proper clearance between the teeth, the grinding need not be serious or annoying, but it cannot be wholly avoided, as it can—in theory at least—in the reverse process.

In certain types of flywheel clutches it is possible to locate a stationary block, faced with leather, where the back of the clutch rim will strike it when the clutch is fully released. It thus acts as a brake to retard the primary shaft. This device has been applied experimentally, but it has never come into general use, which is doubtless to be explained by the fact that it calls for rather nice discrimination in the movement of the clutch pedal, according to whether gearing up or gearing down is intended.

#### PROCESS OF GEARING DOWN.

It is apparent that the same simple process may be followed in gearing down as in gearing up,—namely, to release the clutch and slide the gears as quickly as possible. As this gives no chance for complications, it is probably the best method for the novice, and indeed there are cars whose gears shift with such exceeding facility that refinements of any sort in manipulation savor of hair-splitting. But then, "there are others."

It may be well to caution the beginner not to try to disengage his gears with the clutch in. It is not as bad as engaging them, but the whole load of driving is thrown momentarily on the corners of the teeth, and, while some gears will stand it, others won't.

#### Automobile Buses in Knoxville.

A few business men in and around Knoxville, Tennessee, have recently applied for a charter to run a public service automobile line from the city to the suburban towns of Fountain City and Beverly, a distance of about four miles. The company is to be capitalized for \$50,000.

The roads in the section mentioned are the finest in the state, and as there are about 2,500 business men of Knoxville residing in the districts that the new company proposes to serve, it is not surprising that developments are being watched locally with considerable interest.



## Comparative Tests With Fuel Oil and Gasoline in Steam Cars.

*Special Correspondence.*

LONDON, June 23.—My readers will doubtless remember the description and illustration of the "Hydroleum Burner" I sent across some time since when I referred at considerable length to the attempts which were being made by the Syndicate who have picked this thing up, to adapt it for the firing of boilers of the Locomobile type. I have already, enlarged upon the reasons for this attempt, namely the high consumption of petrol—by the ordinary type of atmospheric burner, and its comparatively high cost on this side of the pond.

The Syndicate commissioned W. Worby Beaumont, a consulting engineer of accepted position, to make comparative tests with a Locomobile car using petrol with the ordinary Locomobile burner and heavy oil, a specific gravity 928, with the Hydroleum burner.

Mr. Letts, the British representative of the Locomobile loaned a steam car for the trials. The car was first fired by its own petrol burner under the immediate direction of the Locomobile people at South Kensington, the driver of the car being supplied by them. The evaporation test was made under Mr. Beaumont's supervision at the company's depot and until the gasoline tests were concluded the Hydroleum Company had not even seen the car. On the other hand when it came to the turn of the latter company they fitted their burner and supplied their own driver.

The evaporation test when reduced to pounds, (the only point in which the petrol system shows to better advantage than the Hydroleum) does not affect the question of economy as both forms of fuel are supplied to the public by measure and not by weight.

Some extra cost is incurred for the initial raising of steam in the boiler with the Hydroleum system, this being done by the consumption of from half-a-pint to

a pint of methylated spirits, in a tray placed in the fire box. Methylated spirits costs retail here about 50 cents a gallon, so that it might very well cost 6 cents to get up steam sufficient to start the Hydroleum burner. The evaporation and gasoline and heavy oil consumption tests, were made with the car standing and the boiler fed by a hand pump.

The details of the Hydroleum burner may be ascertained by referring to my description in the November 22 (1902), issue of THE AUTOMOBILE.

Mr. Beaumont points out that so soon as the combustion chamber and fire-box of the Hydroleum burner became hot the oil burned without smoke.

After referring to the density of the crude Texas oil used, as being lower than has been previously stated of it, Mr. Beaumont concludes that the evaporative efficiency of this small boiler and of the Texas oil used therewith and the Hydroleum burner are higher than would be expected.

Briefly the evaporation by the two fuels in gallons of water evaporated per gallon of fuel with feed temperature of 48 degrees is as follows:

Gasoline Burner, 7.71 gals. Hydroleum Burner 8.81 gals.

### Work of New York License Bureau.

*Special Correspondence.*

ALBANY, June 29.—Four or five clerks are now employed in the Secretary of State's office to look after the business of the automobile license bureau which the new Bailey automobile law established in that department of the State Government. At no time since the law went into effect has the office force been able to keep up with its work.

Up to date 6,000 licenses have been issued, but this includes the 2,200 odd of

the old licenses which were renumbered. It is estimated that the office has taken in about \$3,200 from owners of motor vehicles in license fees, at \$1 each, and 1,400 or more from the license fees of professional operators. As the applications are coming in at the rate of 125 per day, it is evident that the receipts for the first half of the year will be about \$5,000, which is sufficient to pay the annual salary of the Secretary of State.

The clerks who have charge of the automobile bureau of licenses complain that they are not to blame for delays in sending certificates or licenses to chauffeurs, because frequently the applicants neglect to place their address in the application or indicate where it is desired the license shall be sent when made out. Nearly a score of licenses are lying in the office now which can not be sent out because the applicants neglected to give any address.

### Enterprising Legal Leeches.

*Special Correspondence.*

INDIANAPOLIS, Ind., June 26.—A colored woman stepped off a street car the other day directly in front of a gasoline car that was being driven slowly down the street by H. L. Hewett. Seeing that she had ample time to reach the curb, and not wishing to startle her, Mr. Hewett did not blow his horn. But just as she reached the curb she noticed the machine, which was so close that she was startled before she had time to realize that she was safe, and she jumped back in front of the vehicle. She was knocked down and one of the front wheels passed over her. The machine was stopped before the rear wheel ran over her, showing how slowly it was moving, and Mr. Hewett took the woman to a doctor, who found that no bones were broken, and then took her home.

When they arrived at the house there were already two callers there in the persons of two legal leeches—whom it would be base flattery to call lawyers—who wanted to represent her in a suit for damages.

### Comparative Steam Generation and Fuel Consumption of Gasoline and Heavy Texas Oil Burners.

	Distance run—miles.	Time running—hours.	Water evaporated—gallons.	Water evaporated—lbs.	Fuel consumed—gallons.	Fuel consumed—lbs.	Water evap'd gals. per gal. of fuel.	Water evap'd lbs. per lbs. of fuel.	Equivalent evap. from and at 212 deg.	Water evap'd per hour—gallons.	Water evap'd per mile.	Fuel consumed per mile—gallons.	Fuel consumed per mile—lbs.	Miles traversed per gal. fuel.	Fuels consumed per hour—gallons.	Specific gravity of fuel.	Cost per mile for gasoline at 15¢ per gal.	Cost per mile for Texas oil at 25¢ per gal.	Fuel cost of trip.
Gasoline trial on road.	50	3.55	31.0	310	3.5	24	8.86	12.9	15.8	7.92	6.2	0.07	0.48	14.3	.895	.685	0.84d		3s. 6d.
Gasoline Trial car standing .....	2.0	18.25	182.5	2.78	19	6.56	9.6	11.5	9.12							1.38			
Hydroleum trial on road	52	4.0	36.25	362.5	4.03	37.4	8.53	9.7	11.88	9.06	7.25	0.077	0.72	12.9	1.00	.928		0.155d	
Hydroleum trial car standing .....	2.0	19.0	190	2.09	19.4	9.1	9.8	11.92	9.5							1.04			

## Modern Garages East and West.

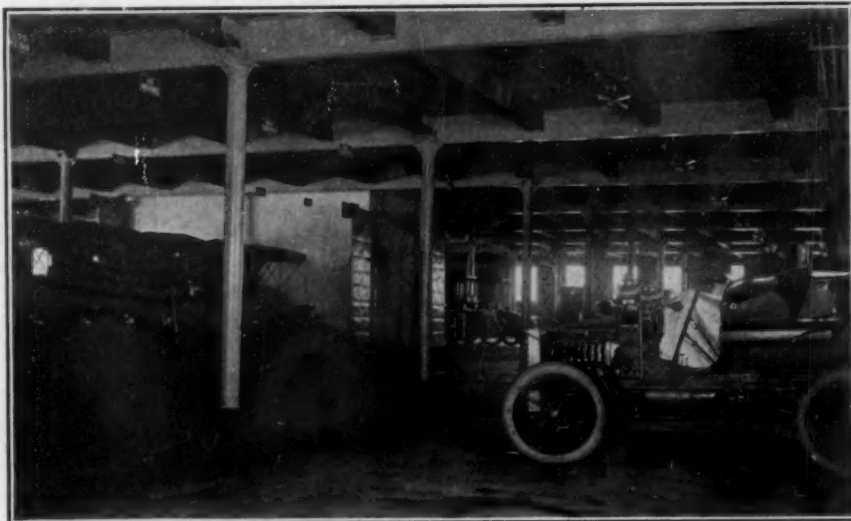
*Staff Correspondence.*

CLEVELAND, June 29.—Plans for the formal opening of one of the finest retail establishments and automobile garages in the country have been made for next week by the White Sewing Machine Company, whose new downtown building has but recently been completed. The building is owned by the company and was designed to suit its requirements. The location is within a stone's throw of the Public Square and within a short distance of all the leading hotels and office buildings.

As will be seen from the accompanying exterior view, the building is plain but substantial and of a size calculated to take care of the requirements of the company for years to come. It is four stories high, built of a good quality of brick, with sand-stone trimmings. Outside dimensions are 96 by 196 feet. All floors are reached by an electrically operated elevator in the center of the building, which is large enough to take the longest touring cars and racing machines, and has a lifting capacity of 10,000 pounds. The front of the ground floor is partitioned off into offices. This includes waiting room, check room, telephone room, stock room, lavatories, general office and a private office for General Manager George S. Waite. The rooms are handsomely finished in bog oak, and furnished to match, and the floors are tile relieved by handsome rugs.

The first main floor is of cement. The

smaller machines. This of course does not include gasoline, lubricating oil or repairs. Half of one side is equipped with drains for cleaning stands, and this department is capable of taking care of fifteen vehicles at once. The wash racks are



INTERIOR OF WHITE GARAGE—NAMES OF RENTERS OVERHEAD.

equipped with marine type incandescent lamps, by the aid of which all parts may be examined readily. Buried below the center of the building is a tank holding 400 gallons of gasoline. There are several

for tires, and lines from this connect with all parts of the building, as well as to the curb outside.

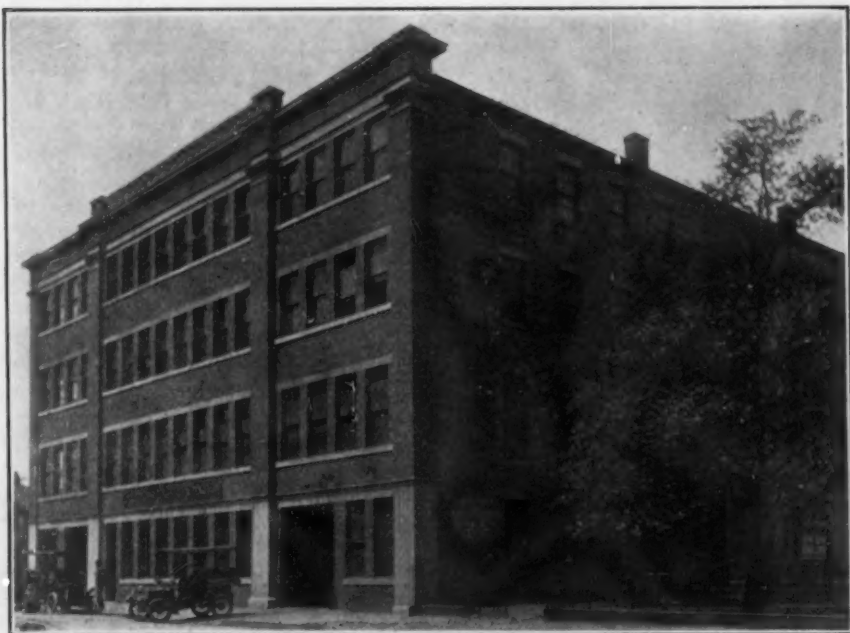
The rear of the first floor is equipped for making minor repairs, and there are pits provided with marine lights to facilitate this work. The second floor is used exclusively for storage.

The repair shop proper is on the third floor. This is to be equipped with machine

tools capable of taking care of repair work of all kinds, and all the repair work of the factory will be done there. There will be a testing plant for determining the condition and efficiency of engines. It consists of a bank of incandescent lamps supplied with current by a small generator direct connected to a pulley. By passing a strap around the rear wheel of an automobile power is transmitted to the generator, and the brilliancy of the incandescent indicates the efficiency of the engine.

The fourth floor of the building is equipped as an adjunct to the main factory and includes the paint shop, finishing and shipping departments. The assembled frames of all the cars brought here from the factory, and the bodies and wheels are finished and the complete vehicle assembled and crated for shipment. At present the cars are coming through at the rate of twenty per week, and this output is gradually being increased.

A valuable adjunct to the garage repair shop is the "hospital wagon." This is a special delivery wagon, equipped with tools of all kinds as well as tires and numerous duplicate parts. It is prepared to make runs at any time to give aid to patrons who meet with accidents on the road. The garage employs twenty-five men in the retail department alone, and is open day and night. Manager Waite has been remarkably successful in selling White vehicles, and at present there are about 175 of this make in daily use in Cleveland. As many of them are now "boarders" at the White Garage, it will be seen that the company



HUGE NEW WHITE RETAIL ESTABLISHMENT IN CLEVELAND.

center and one side is used for storage, each patron having his own stall, designated by card, as shown in the accompanying interior view. Vehicles are cared for at the rate of \$25 per month for the large touring cars and \$15 per month for

lines of hose at the wash racks, and fuel is pumped directly into the machines. Connected with each hose is a Bowser & Co. automatic registering device, indicating the amount of fuel supplied to the car. A large air compressor and tank supplies air



had need of a large and complete establishment. Of the number mentioned, fifty-five are large touring cars. The garage will be decorated for the opening next week, and there will be music and palms and flowers.

### A Modern American Garage.

If there were nothing else to show the growth and permanency of the automobile industry, the continual addition to the number of spacious and well-equipped garages and showrooms in the large cities of this country would alone serve as a demonstration. Not so long ago a corner in a livery stable or floor space in some uninviting shed served as storage room for the automobile on sale, but the modern automobile storage room, or garage, to use the convenient term we have appropriated, together with many other useful ideas from the French, is a place not only of service, but of comfort and beauty as well. Asphalt floors, plate glass windows, a profusion of electric lights, and even palms and potted plants, make the modern garage attractive in itself aside from the handsome cars which it contains.

A good example of such a garage is shown in the two interior views of the establishment of Banker Bros. in New York city, which are presented here.

This garage, located in the center of a section of the city which has become identified with the automobile industry, is a spacious and well-equipped establishment. On its lower floor, lighted by large plate glass windows, front and back, as shown

room are for display purposes and the place is furnished and decorated very artistically, with polished floor covered with rugs, and adorned with palms, while the walls are hung with appropriate pictures.

The building throughout is of strong construction, with steel frame and girders

green and gold, the club colors, and the office in green. All the automobile literature of the day and many of the popular magazines are kept on the table. Many of the pictures that adorn the wall were framed by Dr. Brandow, one of the leading members of the club, who also pre-



INTERIOR UPPER FLOOR SHOWROOM BANKER BROS. GARAGE.

carrying the upper floor. C. G. Wridgway, the widely known long-distance bicycle rider, acts as manager.

### Berkshire Club's New Quarters.

The Berkshire Automobile Club's new club rooms, which were opened in the

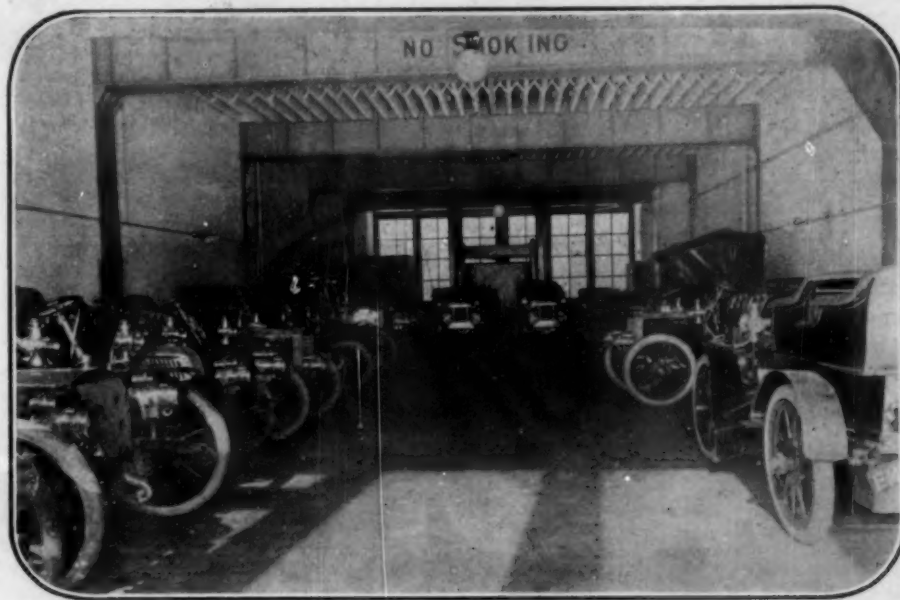
sented it with a unique cabinet made by himself. The Central Station was built last year by Dr. O. S. Roberts, and was bought on January 1 by L. A. Merchant and H. E. Jeffers. In addition to ample storage facilities it has a complete repair shop. Many new machines have been bought this year by Pittsfield men, and there have been a number of applications for membership in the club. The members are planning a number of club runs for the summer, one of the first of which will probably be to Albany.

### Power Boat Association Year Book.

The "Year Book of the American Power Boat Association" for 1903, recently published, contains a copy of the articles of association, a complete set of racing rules and time allowance tables, and square and cube root tables. The book also contains a list of officers of the association and the names of club representatives. The publication, which comprises forty-eight pages and cover, contains twenty-eight separate rules covering every contingency, and including special regulations governing management of contests, measurement, classification, time allowance, ballasting, and rules to be observed while races or other contests are in progress.

"1903 Year Book, American Power Boat Association," Rudder Publishing Co., New York. Price, 25c.

At the congress of the North American Skat League held recently in Cincinnati, an automobile, valued at \$1,000, was awarded as first prize.



GROUND FLOOR STORAGE ROOM IN BANKER BROS. NEW YORK GARAGE.

by the lights and shadows in the photograph, are kept the automobiles in use or awaiting repair. In the rear is a powerful hoist by which cars can be lifted to the second floor, which contains the showroom and offices. The machines in this

Central Automobile Station in Pittsfield, Mass., about the middle of March, are neatly appointed and offer every comfort and convenience for the fifty or more members of that organization. The reception and reading room is finished in

## New Ball Bearing for Radial and Thrust Bearings.

Some ball bearings, embodying several new and practical features, are illustrated in the accompanying cuts. They are made in a number of forms for different purposes, and for loads radial to the shaft are of the four-point type, while the thrust bearings have three points of contact.

The Standard radial bearing is shown in section Fig. 1. Its especial feature is the nut lock for adjustment, which is composed of an extended sleeve support A, formed with screw threads of opposite pitch, and co-acting nuts B and C, both of which are resilient in an axial direction at the contact portions. The inner face of B bears against the adjustable cone D, and its opposite face takes the form of a resilient flange E. Between this flange and the outer nut is contained a locking washer F, having flexible teeth adapted

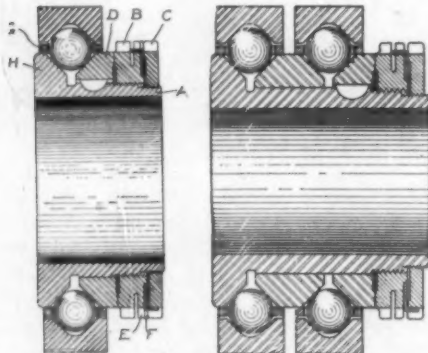


FIG. 1.—RADIAL BEARING.

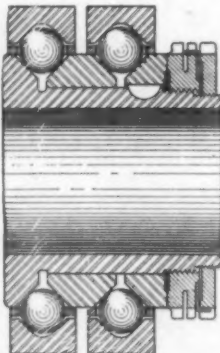


FIG. 2.—DOUBLE BEARING.

to co-act with the notched portions of the two nuts. The outer nut C is also resilient in an axial direction, on account of the web portion between the outer contact portions and the inner threaded part not coming in contact with the inner nut. The notches forming the teeth on the periphery of the locking washer F are differently spaced from those on the two nuts. In adjusting the bearing the inner nut is screwed up until there is no play between the balls and raceways, then the outer nut is forced up until one or more of the teeth on the locking washer can be bent into the notches of each nut, thereby forming a positive lock at any adjustment. A ball separating ring or cage G is generally used, but is omitted in bearings where the conditions do not require one; this cage consists of a ring which is made a running fit on the cones D and H. It is claimed that accidents resulting from the breaking of balls or cracking of raceways, such as would destroy ordinary ball bearings, are practically impossible in this bearing, owing to this feature of the sleeves. For instance, should a ball or raceway break and the bearing stick, the sleeve would run on the shaft as in a plain bearing. It is evident, however, that to make this practically effective ade-

quate means of lubrication will have to be provided.

For heavy loads and slow speeds the running surfaces of the cones and races, instead of being conical, are rounded out to a radius slightly greater than that of the ball, thus increasing somewhat the area of the points of contact when the balls and contacting surfaces are compressed.

Fig. 2 represents a two unit radial bearing; these bearings are made in various

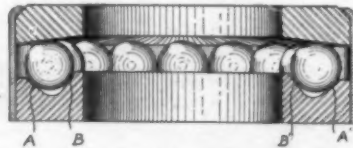


FIG. 5.—STANDARD THRUST BEARING.

units, from one to five or six, as conditions may require. The multiple unit bearings equalize the load, so that an excessive load on any one set of rings is transmitted to each set of rings alike.

Figures 3 and 4 show the application of the bearing to artillery hubs and rear driving axles. Although the drawing does not clearly show it, it is to be presumed that the smaller race in the artillery hub is intended to be so placed as to be free to shift slightly to the right or left, to avoid a conflict of thrust stresses between it and the larger bearing.

Regarding the thrust bearing, Fig. 5, the makers state that it is intended to produce rolling contact only. The groove in the lower plate is so formed that the contact circles on the balls, as they roll on the contact circles AA' and BB' in the groove, have diameters of the same ratio as the ratio of the circles AA' and BB'. The contact on the upper plate is in a line parallel to a line drawn through the two lower contact points, and the makers claim that this distributes the load equally between the lower points, and that the tendency of the difference in the groove angles of the lower plate to force the balls outward is counteracted by the angle of the face of

the upper plate forcing them toward the shaft. This bearing also is made with the raceways curved instead of conical, for heavy loads and slow speeds, and with a cage holding the balls in place.

The same company makes a thrust bearing for light loads, with flat thrust plates and the balls retained by a cage. All the bearings are the subjects of patents granted to M. Reid, and are made by the American Ball Company, of Providence, R. I.

## Proposed Sandusky Ordinance.

A proposed automobile ordinance in Sandusky, Ohio, requires that the owner of each automobile shall register his name and address with the proper city official, when he will be given a permit to operate a vehicle. This clause does not apply to strangers using their machines for less than two days in the city. A speed in excess of eight miles within the city limits, is prohibited. At night two lights, one on each side, are required, and in the day time a horn or bell must be carried and sounded when approaching a crossing or other place where

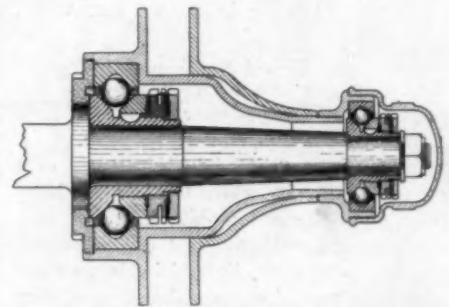


FIG. 3.—RADIAL BEARING ARTILLERY HUB.

a warning is necessary. Operators must observe the usual law of the road, passing to the left vehicles going in the same direction and to the right those going in an opposite direction. A fine of \$100 is provided for violation of the ordinance. It is expected that this measure will be reported back and become operative at the next meeting of the city council.

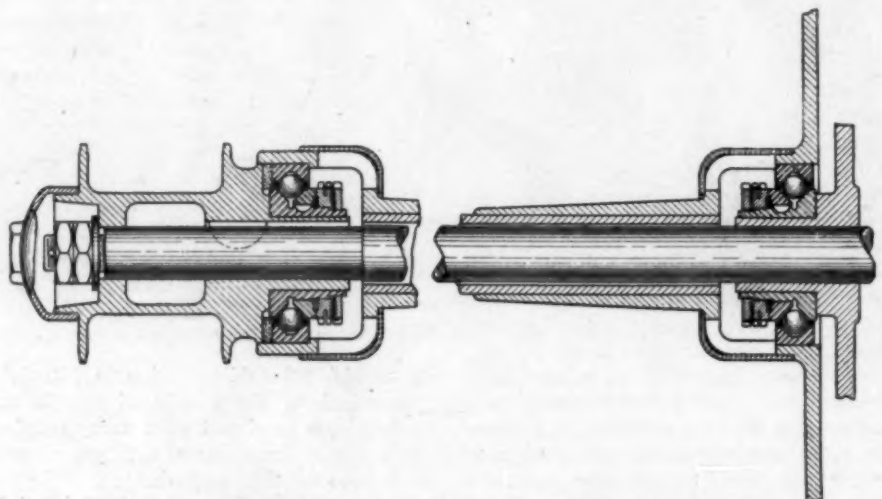


FIG. 4.—DRIVING HUB AND DIFFERENTIAL, WITH RADIAL BEARINGS.

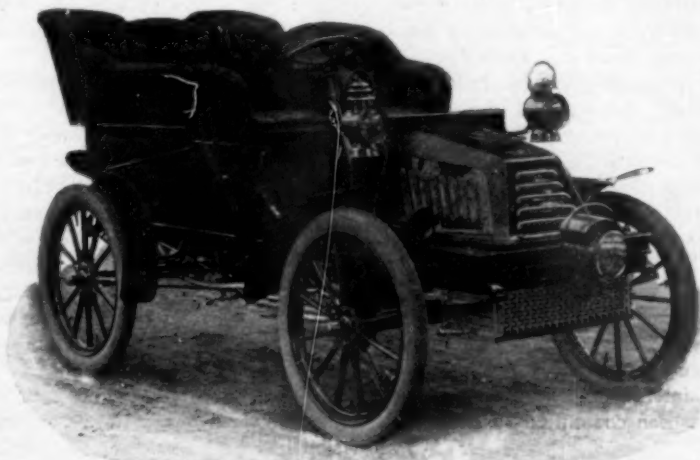


## NEW VEHICLES

### "Model" Horizontal Engine Tonneau.

The entire mechanism of the "Model" touring car is mounted in an angle iron frame, supported on semi-elliptic springs fore and aft. The horizontal double-cylinder motor is placed so that the fly-wheel comes just about in the center of the chassis. The power is transmitted to the driving wheels by means of a chain which engages a sprocket fixed to the outside of the differential, just to one side of which is a foot-operated band brake. The gasoline and water tanks, which are also mounted on the frame, are placed forward under a metal bonnet, just below which is a radiator of new design. Steering is controlled by a wheel. The road wheels are of wood, fitted with double tube pneumatic tires.

As will be seen from the illustration, the



"MODEL" TONNEAU CAR WITH HORIZONTAL MOTOR.

body, of tonneau type, is large and high backed, while the front seats are divided. The seats are evidently well upholstered, and the whole car nicely finished.

The Model car is built by the Model Gas Engine Co., of Auburn, Indiana.

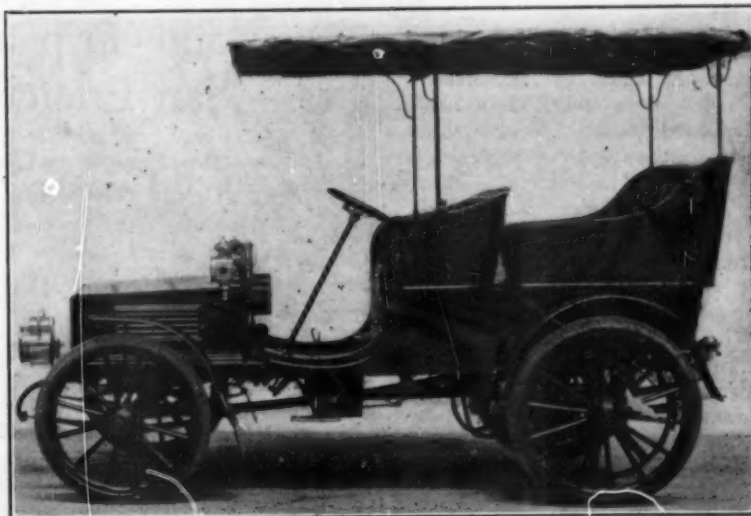
### Woods Electric Tonneau Car.

A new electric vehicle, possessing a number of novel features of design, is the Woods tonneau type car. As will be seen from the illustration, the long wheel-base, 88-inch, and high backed, removable tonneau, together with a hood-shaped battery box in front, and wheel steering, gives the vehicle a striking resemblance to a gasoline car. The seating capacity is five persons.

Power is derived from a 40-cell battery of 160 ampere hour capacity; twenty cells are placed under the forward bonnet, and twenty under the front seat. Two individually connected  $2\frac{1}{2}$  horse power motors drive through the medium of large diameter gears, which are attached to the rear wheels. The wheels are of wood,

with steel hubs. The diameter of the forward wheels is 32-inch, the rear wheels are

36-inch, and the tread is 56-inch. Solid tires  $2\frac{1}{2}$ -inch in diameter are used.



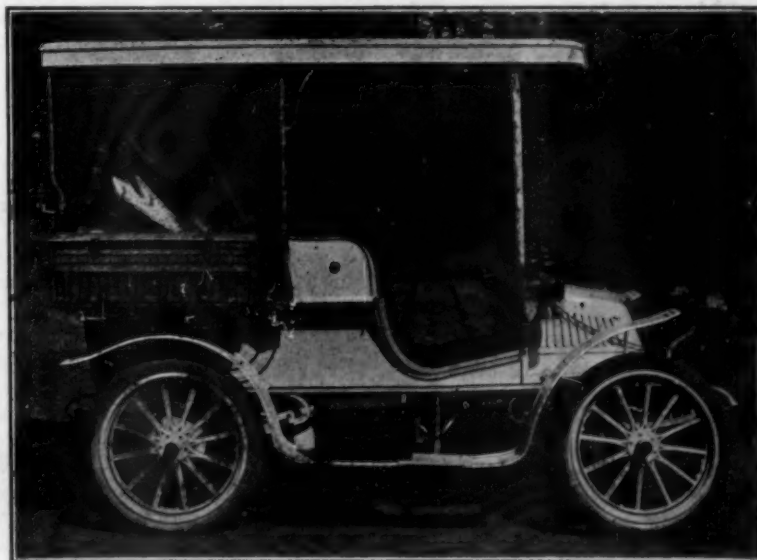
WOOD'S ELECTRIC TONNEAU CAR WITH DIVIDED BATTERY.

The controller permits four forward speeds of 5, 10, 14 and 18 miles, respectively, and a reverse. There are two independent brakes, one operated by a foot lever, the other by the controller lever. A single steel perch, extending backward from the center of the front axle, divides into two branches under the center of the vehicle, each branch reaching to the ends of the rear axle, just inside the wheel bearings. Double elliptic springs support the body at the rear, while three-quarter elliptic springs are used in front, their free ends being supported by "pump handle" brackets. A large canopy top, fitted with suitable drop curtains, is provided. The weight of the vehicle complete is 3,200 pounds.

The builders of this new electric car are the Woods Motor Vehicle Company, 110-112 East Twentieth street, Chicago, Ill.

### Dyke Touring Car.

A new Dyke gasoline touring car was recently completed, which, although originally intended merely for demonstrating,



CANOPY TOP TOURING CAR MADE FROM DYKE PARTS.

possesses a number of interesting features that are worthy of mention. The running gear is reachless. The frame is constructed of 2-inch angle iron, and to it a single cylinder horizontal motor of 7-horse power is attached, the flywheel being immediately under the seat, with the combustion chamber pointing toward the front of the vehicle. The transmission, which is of planetary type, gives two forward speeds and reverse. It is attached to the motor frame, and direct connected by means of an elongation of the motor shaft. Gasoline and water tanks are placed under the metal bonnet forward. A float feed carbureter is employed, and ignition is effected by the jump spark method. A double set of dry batteries of six cells each supplies the current. Natural circulation is depended on with success, it is stated. The particular vehicle illustrated is also fitted with a small dynamo and storage battery for auxiliary use, and for lighting several electric lights, with which the car is equipped.

The wheels are of wood, with hubs of pressed steel. Internal or expanding brakes, operated by a foot pedal, are fitted to the wheels, while a third brake operates on the differential drum. Wheel steering is used, the wheel being pivoted so that it may be tipped up when entering the car.

This vehicle, which is very complete in its appointments, is fitted with a large canopy top with storm drop curtains, as well as a large glass front, made in two parts, the top half being adjustable.

The car was built from parts sold by the A. L. Dyke Automobile Supply Company, St. Louis, Mo.

### Druggists Given a Ride.

*Special Correspondence.*

BRIDGEPORT, June 29.—An automobile ride was a feature of the entertainment provided for the delegates to the convention of the Connecticut Pharmaceutical Association held near here last week. The local committee enlisted the services of the Automobile Club of Bridgeport and fifteen automobiles with operators were used.

Green's Farms, where the convention was held, is about fifteen miles from Bridgeport, and about thirty ladies, wives of the delegates, came over on the train and were taken out in the machines.

The party was in charge of Harry A. Dupee, a prominent druggist of Bridgeport, and the Automobile Club committee was composed of F. W. Bolande, M. V. Doud and A. K. L. Watson.

A lively run through Beardsley Park and Seaside Park and other parts of the city was enjoyed. The cavalcade attracted much attention. The ladies wore badges of the State Druggists' Association, and the cars were decorated with club flags. In the evening the druggists entertained the members of the Automobile Club at dinner.

One June 18 the Secretary of State of Connecticut had issued 450 automobile licenses under the new law.

## Overland Trip from the Pacific Ocean— San Francisco to Sacramento.

BY MARIUS C. KRARUP.

SACRAMENTO, Cal., June 21.—Whisked across the continent from the Atlantic to the Pacific Coast in less than five times 24 hours by something like 35 different, powerful locomotives, each one held in readiness after careful and systematic inspection at a roundhouse station to speed our way over an average of about 110 miles of smooth steel rails—then to be detached and again inspected, lest something go wrong with the monster machine, whose task is after all so much lightened by the short stages and the excellent fitness of the roads over which it hauls its burden—our little party found itself in San Francisco on June 7 prepared to retrace our way from the Pacific to the Atlantic, about 3,500 miles. The route lies over such roads as the enterprise of young communities should be found to have prepared, over the lofty and precipitous Sierras, over the sage brush and sand plains of Nevada and Utah, through the cañons of the Rio Grande country and the broad-backed Rocky Mountain ranges, and then from Denver eastward to Manhattan Beach on Long Island through a broad scope of country of less wild and rugged natural formation but withal of highly varied topography; and all of this laborious transportation to be accomplished by means of one little machine propelled all the way by one single cylinder gasoline engine tended with such care as may be bestowed upon it at irregular intervals by those to whose charge it had been committed for this trying test.

Fully realizing that the work before us, with all the charm of venture and outdoor life which it promised, involved a far more severe scrutiny of the constructive merit of a motor car than any to which any other piece of working machinery is ever regularly subjected, we felt that we were entitled to all possible deliberateness in our preparations, inasmuch more as both of us were totally unacquainted with that portion of our country sloping to the Golden Gate, and in fact for all practical purposes unfamiliar with the roads in any portion of the United States through which we were to pass.

A week passed before we were ready to make the start. Then, on Saturday, June 20, it was decided that the time had come and that further delay would be of no value. It was thought fitting, too, in so timing the departure, that with good luck it might be possible to take the Packard Touring Car which was in our charge into the city of Salt Lake at about the same time when the world would hear of the results of the International Cup race to be held in Ireland on July 2, and that this probable coincidence of dates might lead to a comparison of the relative importance of two events—

one a race at breakneck speed over a smooth course and the other only steady plugging over rough and almost untrodden ground, yet each in its way intended to demonstrate what this product of modern ingenuity and patience, the automobile, may be trusted to do.

At 2 o'clock, E. T. Fetch, the capable operator and mechanic from Warren, Ohio, who was to guide the machine and see to it that the laws instilled in its mechanical nature by its designers were obeyed, mounted and took his place at the steering wheel. Beside him the writer took his seat, and now, without further formalities, the course was steered to the famous Cliff House in San Francisco, overlooking the Pacific Ocean and the Seal Rocks, thence to depart with a few whiffs of salt breeze to cheer our memory on the long land-bound expedition.

The cyclometer showed 68 miles for the start, indicating the amount of the road test the new machine had previously received. The time was 3.05 P. M. The extra equipment at this point consisted mainly in two special gasoline tanks, one holding 6 gallons as a reserve, and not included in the feed system, the other holding one gallon, and placed close to the carbureter. This is not in regular use but can be switched in to facilitate the feed, by gravity, when the regular tank, holding 10 gallons, is too far below the level of the carbureter, on steep roads, to feed properly. A special provision had been made for varying the size of the combustion chamber, and thereby the compression of the explosive charge, with a view to the requirements at high altitudes, where it might prove difficult to obtain the full power of the engine by other means. Some repair material stowed away in the front hood, two valises of small size containing personal belongings, one pair of rubber boots, a portable camera, a surveyor's aneroid barometer, a compass and clinometer, a thermometer, and one 38-caliber revolver in a holster on the dashboard, completed the baggage piled behind the seats. An axe was strapped on top of a three-gallon tank intended to contain drinking water and located over the right rear axle bearings. A camping outfit it was decided should be procured at Sacramento, but a stout shovel was carried along from the beginning.

After driving the six to seven miles from the ocean to the Oakland Ferry there was nothing to do but await the departure of the ferryboat which took place at 5.15 o'clock with that irregularity for which ferries on the Coast are noted, the schedule time being 5 sharp. At 5.50 we disembarked in Oakland, which is approached between two long jetties. Our object was to



make Port Costa before dark, 27½ miles, and knowing that the range of hills beyond Pinole might prove troublesome for persons unfamiliar with the windings of the road, the precaution was taken of getting a young man from San Francisco who was acquainted with the country to accompany us seated on the footboard with his feet on the step. Beyond Pinole we obtained a very good view showing the little borough nestling among the high, brown ridges dotted with trees, and a last glimpse in the background of San Francisco Bay. Through the blunder of a Sacramento photographer this together with eleven other views representing scenes from the first evening's drive and the early Sunday morning at Port Costa and Benicia, were destroyed, and we were thus forced into the ranks of the legion who warn against placing any confidence in the professional developers of this much photographed country. Spite of the guidance we found ourselves at Martinez, three miles out of our way, about 7.30 o'clock, and had to make haste to retrace our steps toward the highly picturesque cañon on the side of which an automobile may slide downward into Port Costa solely by gravity and brakes for about two miles, following a very sinuous course. The Port Costans found it quite impossible to believe that any motor car could have negotiated this descent with the small remnant of daylight at our disposal after 8 o'clock. But Tom hugged the uphill side of the road pretty closely and the band brakes on the rear wheels worked sweetly and noiselessly.

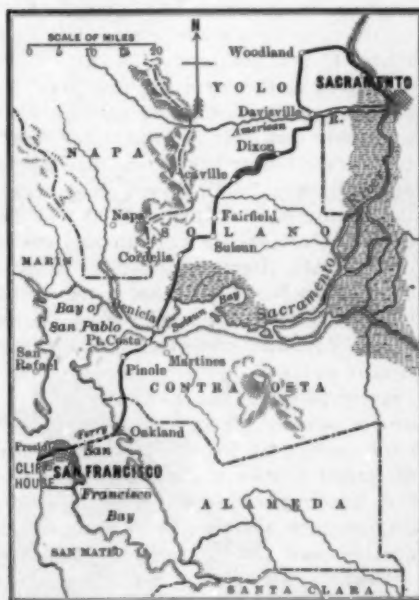
"Tom" is Mr. Fetch, because it was quickly agreed that short and handy names are best for long trips, especially when circumstances may require quick action and dispensation with all formalities.

During this Saturday evening run to Port Costa the machine behaved perfectly, except that the crank bearing was hotter than it should have been.

The next morning a peculiar discovery was made. The needle valve regulating the oil supply for our only crank bearing was found to have been mutilated at the point with a pair of nippers, and its seat was filled with waste and soap, and this though it had been found in the best of order a few hours before the departure from San Francisco. Plainly the work of one who did not wish us success. But for the early discovery the bushing would undoubtedly have been badly cut. As it was the bearing ran hot for a few hours on Sunday after the needle had been filed down to a fit and the waste and soap removed, but the regular supply of lubrication soon brought it back to its original smoothness. The saturated oil pad laid in the groove of the connecting rod in this machine had proved its value, as only for the oil contained in this pad the bearing would have run completely dry before the vandal's work was laid bare.

The first two ferry passages Sunday morning from Port Costa to Benicia were missed through this incident, and so it was

after nine o'clock when the crossing was made. The first news that reached our ears on the ferryboat was bad. It was said to be impossible to reach Sacramento by the route we intended to go, via Davisville, bridges and culverts having been washed out and not yet replaced through the "tula" land (bulrush marshes) which skirts the Sacramento River along its lower course, protected by levees. The latter had given way at a point north of Davisville and the damage below had been considerable. The only other way to reach Sacramento was by a long detour including a ferry which does not run on Sundays. So we proceeded on the original route, trusting to the more comforting information that a crossing could be effected by going over Woodland, a detour of only 20 miles. This afterward proved correct, but in conjunction with



COURSE SAN FRANCISCO TO SACRAMENTO.

another incident of the day brought the cyclometer from 106 at Port Costa to 215 before Sacramento was reached at 8 o'clock in the evening.

### Port Costa to Sacramento.

*Special Correspondence.*

CARSON CITY, Nev., June 24.—Before chronicling the Sunday drive it should be related that we established on Saturday evening the principle of the utmost consideration toward other wayfarers, especially women driving top buggies, and had occasion to lead skittish horses twice before two hours out of San Francisco. In the last instance the young woman who drove the refractory animal told us to take the first road "to the right" for Port Costa, and when this resulted in the undesired brief view of Martinez previously referred to and six miles of superfluous driving, we established another principle—on trial—namely, that women generally will tell "right" or "left" according to the direction of their own travel rather than that

of the inquirer's; and this was borne out in another instance the next day, whereafter we concluded to be ever gallant but to refrain from questioning the fair sex about roads or distances. "They measure all distances from their own home," Tom contends, and perhaps his observation in this respect may be of value to other tourists.

On the ferry boat to Benicia (\$2 for car and two) we were advised that it was impossible to reach Sacramento unless we made a detour of some fifty odd miles including another ferry from Isleton to Walnut Grove, and the first trip of this ferry was to take place Monday evening. As this was too discouraging to be readily believed, we sought the counsel of leading citizens of Benicia, who were sufficiently interested to prescribe various routes for us as far as Salt Lake City, and they partially confirmed the evil report that passage from Davisville to Sacramento was impossible on account of a recent irruption of the Sacramento River through the levee which protects the low "tula" lands or marches adjacent to it. Bridges and culverts in the overflowed district had been swept away and not yet replaced though the water had subsided. Loath to give up the planned route, we drove to Cordelia and telephoned to Davisville for more information. The reply came back that we could probably go to Woodland, cross the "tula" lands there to the levee and then drive back on the interesting and in places very pretty road which is laid out on top of this dam, following the windings of the river for probably fifty or more miles. Detour involved in this plan: 20 miles, and a little piquant uncertainty added!

The cyclometer had been at 106 at Benicia. Through Suisun and Fairfield to Vacaville was only a jaunt of thirty-three miles through a rolling country traversed mostly on high and intermediate gear speed. Ten or fifteen minutes were spent in securing the copper boat or chute along the connecting rod which catches the lubricating oil for the crank. It had worked loose of its hinge, probably during the hurried work on the needle valve early in the morning. A little copper wire and deft fingers quickly stopped the rattling sound which had annoyed the operator.

Vacaville appeared as a very cosmopolitan town that day, the local and the Sacramento baseball nine having a meet on its ball grounds that afternoon. Though only a town of 1,200 to 1,500 inhabitants, it had in J. M. Burns' restaurant a caravanserai of which much larger towns might be proud. The car created a highly favorable impression. A strong, business-like machine, was the general verdict, and we had the good wishes of the boniface and the population when we pulled out after lunch toward Dixon, having first bought five gallons of gasoline to fill up the tank. In Vacaville Mr. Ryhnier, professor of music and languages in Vaca-

ville, kindly led the way for us in his buggy. Within one half mile of Dixon, thirteen miles out, the writer missed his little satchel, which was supposed to have been strapped on behind and contained photo films, aneroid barometer and other instruments as well as maps; the cyclometer was at 149 when the loss of the satchel was discovered. There was nothing to do but to trace our way back to Vacaville, looking for it in the road and inquiring from everyone if they had seen it. The ball game was in progress and many of the spectators had driven in from their fruit farms to witness it. Fruit farming and dairying are the mainstays of the locality; hence the name Vacaville, which is Spanish for Cowville. When about to give up the search, the Mayor of Dixon, J. A. Kerr, whom we had previously met in the road hailed us from his buggy, and with a smile hauled out the satchel from under the lapsheet. Guessing from the instruments to whom it belonged he had very considerably sent a telegram to Dixon to intercept us, stating that he would return with the satchel to Dixon at 6 p. m. We received it at 3 o'clock at Vacaville instead, and while the incident made us travel twenty-six miles extra, it gave new proof of the great convenience of an automobile compared with a horse and buggy. The twenty-six miles meant only 1½ gallons of gasoline and two hours of time to us. To one in a buggy it would have made it impossible to reach his destination. It also meant to us that it was wise to be considerate of fidgety horses, for unless we had been so in Mayor Kerr's case, it seems hardly likely that this gentleman would have taken so much trouble in tracing us. The satchel had been placed in the ring of the spare tires over the tailboard, but it had been neglected to strap it down, and at one of the numerous little culverts running across the roadbed it had been jolted out unnoticed. To gauge the speed of the car so as to run smoothly over these culverts of varying width seems next to impossible, so we accepted the jolts as a part of the local highway system and the bountiful supply of water running down from the hills in rivulets and partly used for irrigation purposes. A more serious inconvenience was the dust which always obscured the rear view unless the roads had been oiled. Of 109 miles covered this day probably twenty miles had been treated at one time or another with crude oil or residue and these stretches were decidedly superior to the rest of the way, except where the oiling was fresh, making a nasty black mess in the middle of the road unfit for anyone to travel over. It seems that almost a month's time is required before a surface so treated gains the right consistency.

With all our belongings we left Vacaville again and sped on to Dixon and Davisville, and again on to Woodland when the Davisville road proved impass-

sable in accordance with the report. The car gave no cause for comment, if all comment must relate to troubles, but plugged faithfully along as if endowed with a volition of its own to reach Sacramento before night.

A track over five or six miles of the marshes revealed the recent flooding of the district only in the destruction of the regular roadway and fragments of rustic bridges strewn about. The bottom was perfectly dry nearly all the way and only a rank growth of bulrushes and the vegetation generally showed that other seasons would present a different picture. Here and there were slightly elevated islands with groves and farm houses. Thousands of sheep pastured in dense flocks showing that the picking was not too scant, while on the brown hillsides previously passed the same frugal animals scattered in numerous little groups of four or six covering a wider area and adding a charm to the landscape.

Arrived at the levee the road was clear and unmistakable, elevated perhaps fifteen or twenty feet over the river and four to twelve feet over the tula lands. Occasionally a sidepath dipped down among the woods skirting the stream, and concealing it from view, only to join the top of the levee later on, and these stretches through cool alleys arched over by the trees gave delightful respite from the heat of the day, and confirmed the impression which we had already received more vaguely in other places, namely, that this was a country where each season has a road system of its own. In the spring the traffic follows a different course from that which is considered pleasanter when the moisture has been evaporated and the dust released from its mud bondage.

Towards Sacramento the levee broadened and for the last five miles evidently formed one of the favorite driveways for the élite of the capital of California, as we met a number of stylish teams and carriages out for an evening spin. It was about 8.15 o'clock when we crossed the bridge into the old city from which we were to set out to cross the Sierras during the following two days.

The same evening we were looked up by E. C. Rutherford, of the Sacramento *Record-Union*, and from this amiable gentleman received much more valuable information in regard to our route over Placerville and on to the Summit than we could give him in return in regard to our expedition.

The car meanwhile had been housed in one of the four garages where it was hospitably received, although all of the four places had been closed for the day before our arrival. The cyclometer showed 215 miles.

C. W. Smith, who will begin his duties as rural free postal delivery carrier at Hamilton, Ohio, in July, will cover his route in an automobile.

## PITTSBURG HILL CLIMBING CONTEST A PRONOUNCED SUCCESS.

### Special Correspondence.

PITTSBURG, June 27.—Despite miserable, rainy weather and heavy roads, about thirty-five contestants out of forty-two entries, took part in the first hill-climbing contest of the Automobile Club of Pittsburg, last Saturday, at Highland Park. Several hundred spectators watched the event, including the occupants of about sixty "outside" automobiles.

The course was over Serpentine Drive from the "Zoo" bridge to a point at the top of Mt. Bigelow, near the reservoir, a distance of 2,204 feet, with a gradient varying from 6 to 12 per cent. While there are steeper hills in Pittsburg, there are none that are more difficult to ascend at high speed, as this drive is a succession of curves from start to finish, with no straight stretches.

The best time was made by Banker Bro.'s 35 horse power Peerless racing car, geared especially for the hill, which made the ascent in 1:29. The second best time was 1:46, made in an exhibition run by Reuben Miller, Jr., in a Stanley steam runabout.

The best time in the regular class trials was made by A. E. Marten, who, in a Peerless, covered the course in 2:11.

A. E. Turner made the best time in the finals. He drove a Peerless and made the ascent in 2:10 3/5.

### SUMMARIES PITTSBURG HILL CLIMB

Following is a summary of the trials by classes:

#### CLASS A, ELECTRIC, NO WEIGHT LIMIT.

Name.	Machine.	Time.
1. A. L. Banker.....	Waverley	3:03*
2. W. N. Murray.....	Studebaker	4:14
3. Harry A. Marlin....	Columbia	4:18½
4. James A. Burke....	Columbia	4:34
5. T. H. Hartley.....	Columbia	4:53½

\*Protested on ground that it carried a shunt.

#### CLASS B, STEAM, NO WEIGHT LIMIT.

1. W. H. Artzberger....	Foster	2:12½*
2. Reuben Miller, Jr....	Stanley	2:15*
3. Peter Hermes.....	White Tonneau	2:48
4. J. McD. Mashey....	Toledo	3:44*

\*Protested on ground that they did not carry full passenger limit.

#### CLASS C, GASOLINE CARS, UNDER 1,000 POUNDS.

1. W. H. Stewart....	Northern	3:37
2. Edward Haus.....	Oldsmobile	3:39½
3. J. D. Splane.....	Pierce	5:12½

#### CLASS D, GASOLINE CARS, 1,000 TO 1,500 POUNDS.

1. F. T. F. Lovejoy....	Pierce	2:29
2. D. H. Hostetter....	Franklin	3:09½
3. W. J. Young.....	St. Louis	3:18½
4. G. L. Hailman.....	Autocar	3:27½

#### CLASS E, GASOLINE CARS, 1,500 TO 2,000 POUNDS.

1. F. E. McCune.....	Darracq	2:21½
2. W. L. Mellon.....	Autocar	2:26
3. J. A. Hawkins.....	Autocar	2:49
4. Clarence Fleming....	Autocar	2:49½
5. George A. Urling....	Autocar	3:05½
6. Thomas Guffey.....	Decauville	3:42½

#### CLASS F, GASOLINE CARS, OVER 2,000 POUNDS.

1. F. E. Masten.....	Peerless	2:11
2. C. E. Turner.....	Peerless	2:20½
3. A. R. Neeb.....	Peerless	2:30½
4. T. H. Hartley.....	Gasmobile	2:48½
5. C. H. Dixon.....	Autocar	2:55½
6. Joseph Reed.....	Winton	3:24
7. L. B. Hayes.....	Haynes-Apperson	5:24



At the conclusion of the foregoing trials summaries were run off between the two making the best times in each class, but a number of the contestants had started for home, so that the results were incomplete. In the finals F. C. McCune got under his previous time, making the ascent in 2:19 2-5; and C. E. Turner reduced his previous time to 2:10 3-5.

The Pittsburg Club has arranged for a mile straightaway speed contest to take

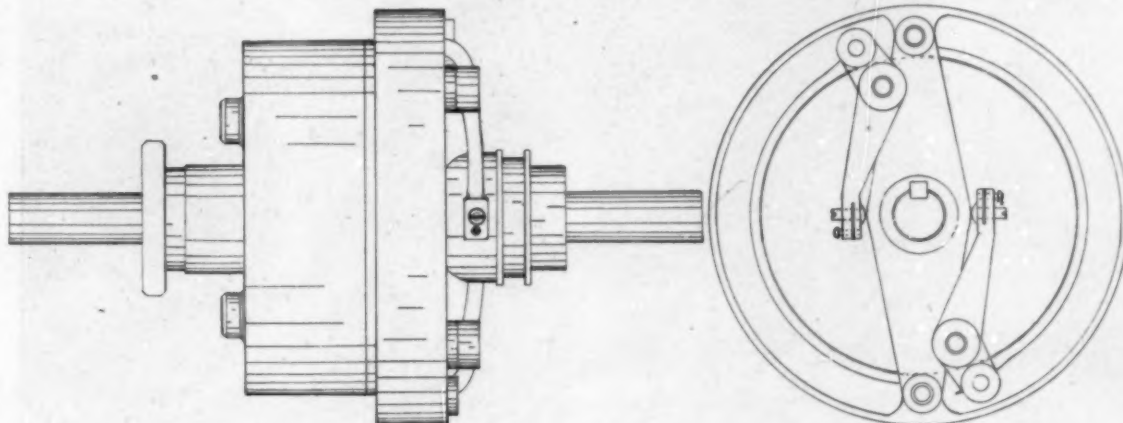
### Colcord Upton's Transmission.

Colcord Upton, late with the Upton Machine Company, of Beverly, Mass., has opened an office at 144 West Thirty-ninth street, New York, and will engage in the manufacture of 2 and 3-speed change gears. The former are of the planetary variety, now well known, and of the external form shown in the line drawings herewith. Their special feature is the design of the clutch,

bands are tightened by links worked by toggles, and are steadied by two of the four principal arms of the clutch. In the gear itself one lever operates all the speed changes.

### Race Meet at Elyria on July 4.

Elyria, Ohio, is planning an automobile celebration for July 4, with an automobile parade in the morning and a race meet in the afternoon. Cleveland enthusiasts



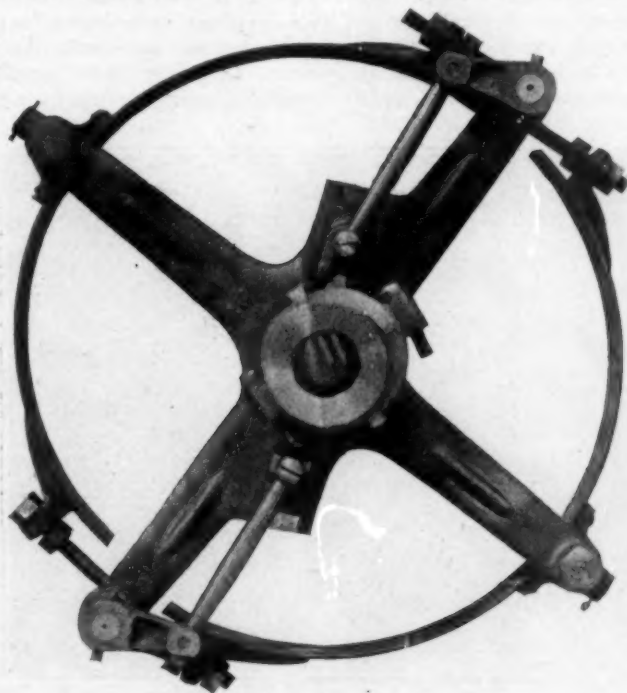
*Patents applied for*

**SIDE AND END OF TRANSMISSION SYSTEM, WITH EXTERNAL CLUTCH BAND.**

place on the Beechwood Boulevard Speedway on July 11. Nine prize cups are offered. One handsome cup is offered as first prize in a free-for-all except motor cycles, open to any owner dealer or maker.

the band of which is applied to the outer instead of the inner surface of the friction drum. Thus the tendency of centrifugal force to make the clutch engage at the wrong time, and generate heat by friction,

have been asked to officiate at the meet and an effort will be made to attract a large number of Cleveland operators. The Cleveland Automobile Club will make a club run to Elyria to participate in the sport.



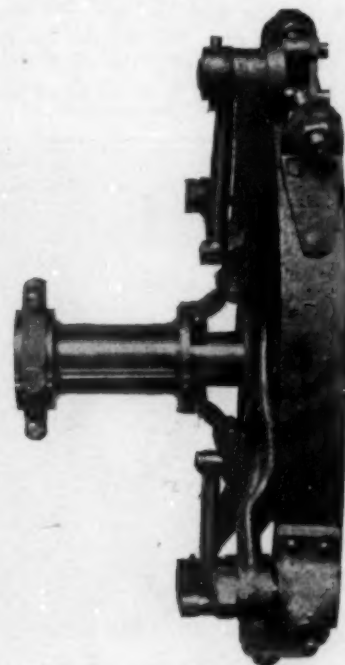
*Patents applied for.*

**CLUTCH MECHANISM, SHOWING TOGGLE ARMS.**

In many cases the cause for leaky tires has been traced to their contact with grease on car rails. It is a known fact that all fatty substances are detrimental, as they act as a solvent upon rubber. Care should be taken to quickly remove all traces of grease from the tires when contact is unavoidable.

is avoided. The clutch surfaces are oiled by hand, and the planetary gears are stated to run in an oil bath.

The 3-speed gear is of the sliding type, and includes a clutch adapted to work on the outside of the motor flywheel. This clutch, which is of rather novel design, is shown in the half-tones. The friction



*Patents applied for.*

**SIDE VIEW OF CLUTCH.**

The races have been sanctioned by the American Automobile Association. The events will be as follows: Ten-mile race, open to all; one-mile race, in heats, best two in three, open machines weighing 1,200 pounds or less; one-mile motor cycle race in heats, best two in three; three-mile motor cycle race.

## Previous Contests for Possession of the Gordon Bennett Trophy.

What is generally known as the Gordon Bennett Cup is not a cup at all. It is a reproduction of the modern motor-in-front tonneau type automobile, carrying two allegorical figures very artistically wrought in

trophy to be contested for annually by teams, preferably of different nations.

In 1900 the first Gordon Bennett contest took place over the road between Paris and Lyons. Three nations were represented;

finally burst his two front tires at Chevreuse. M. Girardot covered the distance in 10:30:28. The winner, M. Charron, met with a good deal of trouble. Near Orleans he ran over a dog which got mixed up in the wheels and running gear, and carried away his circulating pump. The maximum speed attained by the winner was about 62 miles an hour, which at that time was, of course, considered remarkable, and is a



ALEXANDER WINTON IN HIS RACING CAR AT TIMOLIN VICARAGE, IRELAND.

silver. The presentation of the cup by James Gordon Bennett, proprietor of the New York Herald, was suggested by an interview had with Alexander Winton at Albany in 1899, when on his way from Cleveland to New York in a then remarkable long distance run. Mr. Winton had expressed the opinion that if the roads were as good here as abroad, it would be an easy

France by Rene de Knyff, M. Charron and M. Girardot, Belgium by M. Jenatzy, and the United States by Alexander Winton. The distance was approximately 351 miles, and this was covered by the winner, M. Charron, in a Panhard car, in 9:09:00. During the race, in rounding a corner, Mr. Winton's machine skidded and collided with an embank-

ment, tolerably lively speed even in these days of rapid road racing.

In 1901 the cup contest was carried out in connection with the Paris-Bordeaux race. For unavoidable reasons the international event was changed to a purely national contest, and confined to the French team. Originally the Germans had intended to enter, but for some reason failed



PERCY OWEN IN THE SMALLER WINTON CAR. PHOTOGRAPHED AT TIMOLIN VICARAGE, IRELAND.

matter to build a machine that would average thirty miles an hour. At the time this was, of course, a high speed for long distance road travel. This statement repeated abroad created a good deal of controversy, and attracted the attention of Mr. Bennett in Paris, who then offered the

ment and his steering gear was badly damaged. He kept in the race, however, but was finally compelled to withdraw owing to the bursting of one of the rear tires. All of the competitors met with mishaps. Rene de Knyff abandoned the race and Jenatzy had several punctures and

to do so, and only one English car, the Napier, driven by S. F. Edge, was entered. At the last moment this car was barred from participation. The English tires with which it had been fitted gave out on the run from Boulogne to Paris, and Mr. Edge was obliged to fall back on French tires.



This disqualified him under the rule which provided that the car must be entirely constructed of materials manufactured in the country of its origin. The contest was really a disappointment. Messrs. Charron and Girardot, two of the contestants, drove Panhard machines and the other contestant, Levegh, drove a Mors car. During the race Charron dropped out at Vendome

and the latter by S. F. Edge. M. Girardot started off first in a C. G. V. car, followed at intervals of two minutes by Henry Fournier in a Mors and S. F. Edge in a Napier and Rene de Knyff in a Panhard. In the first part of the race a very high speed was maintained by the contestants. This was early demonstrated to those who followed the race on the railroad, the special express

the road. The ground was soft and the car was not much injured, and as the slope down from the road was not very steep it was soon pushed up to the level again. Here the kindly aid of some natives of the district came near disqualifying Edge. Under the rules he could not accept aid from outsiders and some Austrian mountaineers who had come up to help were with great



BUILDING THE GRAND STAND AND JUDGE'S BRIDGE OVER ROAD AT THE STARTING POINT.

and Levegh at Tours. Girardot was in trouble nearly all the way but managed to cover the course and finish seventh among the Paris-Bordeaux competitors. The latter event, by the way, was won by Henry Fournier, in a Mors car, in which he covered the entire distance of 346 miles in 6:11:44 3-5. Girardot's car was a 24 horse power Panhard, and he covered the distance in 8:51:59 1-5.

Last year (1902) the race was run again in connection with one of the great conti-

train from Paris arriving at Troyes after Fournier, de Knyff and Edge had passed through in the order named. Girardot broke down before completing half the journey, and Fournier was also out of the race early owing to trouble with his car. Rene de Knyff, who drove a 70 horse power Panhard, was the first of any of the contestants in the Paris-Vienna race to arrive at Belfort, and he seemed to have the cup safely defended when within sight almost of Innsbruck his differential broke at a sharp turn

difficulty kept from handling the car, as it was impossible for Mr. Edge to explain to them the circumstances in a language they did not understand.

It was almost by an accident that Mr. Edge entered the race. Originally Wolseley cars had been selected, but the drivers decided not to start and he took their place at the last moment. There was some disposition at the time to discount the performance of Mr. Edge, he having apparently won because all the others had broken



VIEW ON THE GORDON BENNETT COURSE FROM THE TOP OF THE GRAND STAND, BALLYSHANNON, IRELAND.

mental road races, being auxiliary to the Paris-Vienna race. The course was from Paris to Belfort, and then to Innsbruck on the second stage of the race, a total distance of about 379 miles. Only France and England were represented, the former by Messrs. Girardot, Fournier and de Knyff,

in the road and he was passed by Edge. The latter had had considerable trouble with his ignition and after he passed de Knyff and was consequently the only Gordon Bennett contestant left in the race, he had further trouble. His car skidded and turned into a ditch about 15 feet below

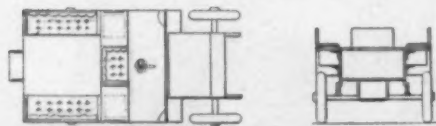
down. This, however, was not shared in by motorists outside of the continent, for the race really attested to the reliability of the machine, as well as to the skill of the driver, and luck which, of course, enters into such a contest, was just as likely to favor one as another.

# Patents

## Automobile Body.

No. 730,353.—G. O. Draper, of Hopedale, Mass.

A body widened by having the rear seats set out over the rear wheels. The driver



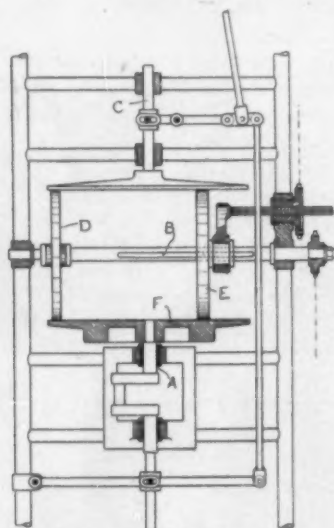
DRAPER WAGONETTE TYPE BODY.

sits in the center and a removable seat or package space may be on each side of him.

## Friction Gearing.

No. 730,678.—L. Maurer, of Nuremberg, Germany.

A, is the motor shaft, B, the driven shaft, and C, an idle shaft with friction disc attached. Roller D turns loosely on B and



MAURER FRICTION DISC DRIVE.

drives C. Thus the driven roller E is acted on at opposite points instead of only by disc F as in other forms.

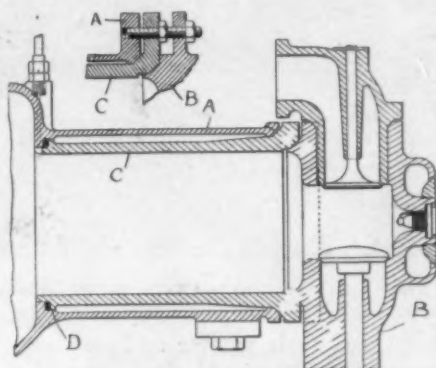
## Hedstrom Carbureter.

No. 730,649.—C. O. Hedstrom, of Portland, Conn.

This is a float feed carbureter embodying the principle that when the principal throttling valve, between the mixing chamber and the motor, is partly closed, the dilution orifices also should be reduced in order to maintain the proper proportions of fuel vapor and air. This carbureter has two sets of dilution orifices, one of which is opened and closed proportionally with the throttle valve, while the other is independently regulated and is normally untouched.

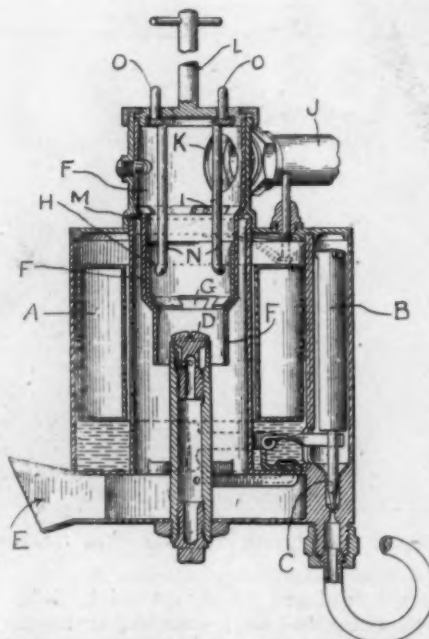
In the drawing, A is the float, partly balanced by the weighted stem B of the needle

valve C. D is the spraying nozzle, which resembles the Languemare, except that the escape orifice, instead of being in the form of a plurality of small holes, is a conical annulus surrounding the head of the control plug. Air enters at E and draws upward, partly next to D, where it takes up gasoline spray, and partly by the annular space around the stepped cylinder or drum F. This is the diluting stream. Part of it enters the mixture chamber by the apertures G, which may be regulated by shutter H, and the balance enters the same chamber higher up, by apertures I; and the completed mixture passes to the supply pipe J through orifice K, over which



AUSTIN GAS ENGINE CYLINDER.

the drum F, which may be rotated by connection with the stem and handle L, acts as a throttle shutter. When K is wide open, apertures I, in the conical part of F, register with similar openings in the stationary sloping flange M; and the rotation of F closes K and I together. Shutter H is connected by rods N to pins O O, working in



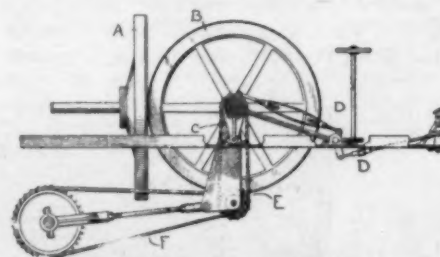
HEDSTROM FLOAT-FEED CARBURETER.

curved slots in the cap connecting F and L. It turns with F unless separately adjusted by the fingers.

## Friction Transmission System.

No. 730,930.—J. W. Lambert, of Anderson, Ind.

A, is the driving disc, B, the driven roller, C, a swinging hanger carrying the shaft



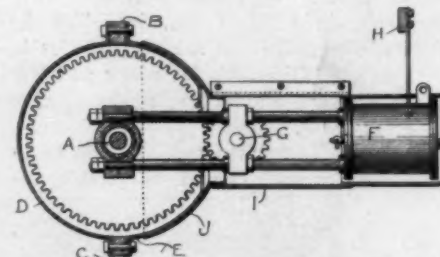
LAMBERT FRICTION TRANSMISSION SYSTEM.

on which B turns, D is mechanism for pressing B against A, E and F are sprocket chains, and G is the rear axle.

## Steam Engine Casing.

No. 730,307.—F. E. Stanley, of Newton, Mass.

In the drawing, A, B, and C are members of the rear axle, to which D and E are secured. F is the engine cylinder, and G, the crank shaft. Support H is attached to the body, and the engine swings up or down about the centre of the axle. To make a dust-proof connection between DE and that part I of the casing attached to



STANLEY STEAM ENGINE CASING.

the engine, a curved cap is fitted as close to E as possible, and movable thereon.

## Gas Engine Cylinder.

No. 731,265.—H. Austin, of Erdington, England.

Apparently the construction used in the Wolseley motor cars. The jacket A, presumably of aluminum, is cast with the crank-case, and the head B also is separate from the liner C. A gasket D makes a water-tight joint at the crank-case end, and A, B, and C are joined at the outer end by the method shown in the detail sketch.

## Boiler Cleaning Compound.

No. 728,627.—J. D. Scott, of South Shields, and H. P. Scott, of Poplar, London, Eng.

A mixture of catechu and a soluble viscous substance, such as molasses, prepared by adding a little water and heating, to make a stiff paste. The preferred proportions are: Catechu, 28 lbs.; water, 3 gallons; molasses, 56 lbs.



**Pneumatic Clutch.**

No. 731,483.—T. Matson, of Philadelphia.

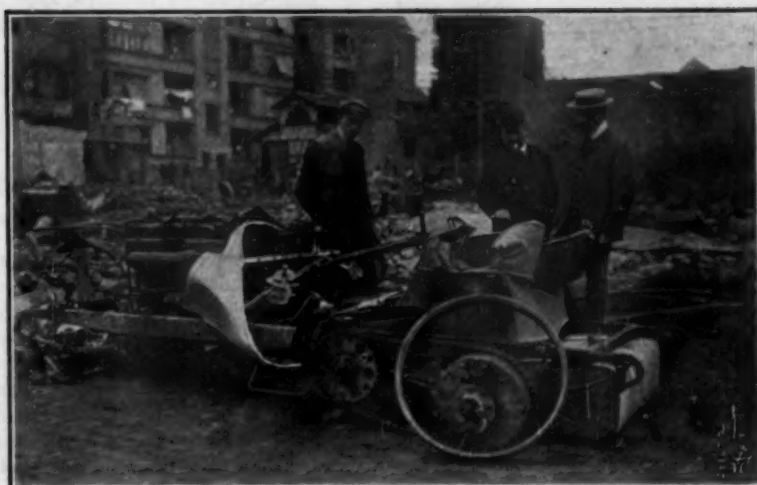
A clutch in which an eccentric on one shaft works a plunger in a pump barrel on the other shaft, pumping air into a system of pipes supplying two cylinders with plunger pistons acting on the clutch friction shoes. The clutch drum is on the first shaft with the eccentric, and the air system on the other shaft. So long as there is relative motion between the shafts the pump will keep on increasing the air pressure and tightening the clutch. A cock in the pressure system releases the air, and a safety valve is added.

**Destruction of Daimler Works by Fire.**

In the fire of the Daimler works in Cannstatt reported in our last issue the three 90-horse power Gordon Bennett racing machines were destroyed, the wreck of one of them being quite apparent in the photograph. The fire, which broke out at an early hour in the morning, con-

"They were equipped with one hand engine," the writer continues, "and on the open spaces formed by yards and roadways prevented the spread of the fire to adjacent buildings."

the remains of one of the Gordon Bennett racing cars are shown, and in another one of the historic early Daimler cars saved from the fire. This represents the transition from the cycle to the present automobile construction.



REMAINS OF ONE OF THE GORDON BENNETT RACERS.



ALL THAT IS LEFT OF ERECTING SHOP AND CONTENTS.

sumed the machine and erecting shops, and what was more unfortunate, the entire drawing office. In this there were an immense number of valuable working drawings and it is not unlikely that much data of historic interest was consumed.

The repair and body making shops were uninjured and a large number of patterns in a neighboring foundry are also available for the resumption of work. This has already taken place in fact, the railway shops at Essling affording immediate facilities for constructing new cars.

An eye witness of the fire writing to the London Club, makes humorous comment on the work of the local fire department:

"The firemen, who, by the way, wear helmets surmounted by plumes, looked very grand, and were splendid so far as discipline and manoeuvring were concerned, but seemed to think the last thing required of them was to attempt to extinguish the fire.

The loss is estimated at about \$1,000,000, covered by insurance.

In one of the accompanying illustrations

**To Enforce 5 1-2-Inch Number Law.**

*Special Correspondence.*

CHICAGO, June 27.—Notices were mailed yesterday to all automobile owners in the city by City Electrician Ellicott to prepare for a strict enforcement of the new 5½ inch numbering ordinance beginning July 1, after which all violators are to be arrested. The chief of police and the park boards will co-operate in the enforcement.

Corporation Counsel Tolman has instructed Assistant Corporation Counsel Granville Browning to appeal at once the injunctive order issued against the city by Judge Healy in the case of the city against A. C. Banker, involving the speeding ordinance. Under a special statute any order granting an injunction can be appealed at once to the appellate court and heard immediately, while the other aspects of the case are still before the lower court.



ONE OF THE FIRST DAIMLERS, RESCUED FROM THE FIRE.



VOL. IX.

NO. 1

Published Every Saturday  
by

THE CLASS JOURNAL CO.,  
Flatiron Building, Madison Square,  
NEW YORK CITY.

Cable Address - - - Autoland, New York  
Long Distance Telephone - 300 18th St., N. Y. City

## SUBSCRIPTION RATES:

United States, Canada and Mexico, - One Year, \$2.00  
Other Countries in Postal Union, - One Year, \$3.00

To Subscribers—Do not send money by ordinary mail.  
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ENGLAND:—Iliffe & Sons, Limited, 3 St. Bride Street,  
Ludgate Circus, London E. C.

FRANCE:—Boyveau & Chevillet, 22 Rue de la Banque,  
Paris.

GERMANY:—A. Seydel, Mohrenstrasse 9, Berlin.

To Advertisers—Copy or changes in orders for advertisements for the issue of the week following should reach us not later than Saturday.

Copyright, 1903, by The Class Journal Company.

Entered at New York, N. Y., as second-class matter.

The Automobile is a consolidation of The Automobile (monthly) and the Motor Review (weekly).

SATURDAY, JULY 4, 1903.

## BAILEY LAW SLIP.

A printer's error in a "law slip" or pamphlet issued by the Secretary of State of New York has been a cause of confusion to many automobilists in the State who have sought registration under the provisions of the Bailey Law. Applicants for licenses receive from the Secretary of State the necessary legal forms of application and also the "law slip," which contains all the amendments to the highway laws that relate to the use of automobiles. In this pamphlet as first issued by the Secretary of State the clause covering "Licenses or permits for Automobiles" contained the following sentence, covering the numbering of automobiles: "Every such automobile or motor vehicle shall have the number of the certificate issued under section 166 by the Secretary of State, placed upon the back thereof in a conspicuous place so as to be plainly visible, the number to be in Arabic numerals, black on white ground, each not less than 3 inches in height and each stroke to be of a width not less than an inch." This should have read "Not less than half an inch." Before this error was discovered a number of the pamphlets had been issued. The disagreement between this instruction and that previously published in the text of the bill caused inquiry to be made, and

the first edition of the "law slip" was destroyed and a new and correct edition printed. We have received letters on the subject from a number of correspondents and take this occasion to confirm the accuracy of the text of the law as originally published by us.

## BRITISH COURTESY.

In a recent issue our English contemporary *The Autocar*, referring to the map of the Gordon Bennett course which we published in our issue of May 2, says: "The map contains one extremely interesting feature, and that is that every blacksmith's shop on or adjoining the course is indicated \* \* \* \* \* It does not show much faith in the American productions when their own automobile press publishes information of this description."

The good taste of this entirely gratuitous and entirely incorrect interpretation of our intentions is a fair sample of the elephantine delicacy for which John Bull is famous in the United States. A man's mind generally runs on his experiences and no doubt the English editor was thinking of the Paris-Madrid race when he wrote the paragraph referred to. In that race blacksmiths' shops would not have been helpful to the English entrants, as before the finish of the first stage the state of decomposition of the English machines was such that a map showing the junk shops along the route would have been much more useful. Not one of the English cars that started in the race was equal to a dash of only 343 miles, and of the sixteen Englishmen who started, in one sort of vehicle or another, only three finished.

As a matter of fact the suggestion to include the location of blacksmiths' shops in the map of the course came from London, the original sketch map of the course published there showing the shops along the route. The idea struck us as a good one, as helpful to visiting motorists who were expected to be in Ireland in large numbers and who would be quite unfamiliar with the location of such shops. *The Autocar* knows full well that under the rules our Gordon Bennett team could not accept any aid from repair shops during the race.

## PRESIDENT AND THE PRESS AGENT.

The methods of the clever press agent while frequently unusual, are seldom offensive. Even if not possessed of a fine discrimination he is too much alive to his own and his employer's interests to do anything that will ultimately work to his disadvantage, or bring his employer into disrepute. A disagreeable example to the contrary was the effort on the part of some "enterprising" agent to use the daughter of the President of the United States as a stool pigeon to attract attention to his wares. It was given out that Miss

Alice Roosevelt had purchased a new automobile and had become very expert in its management, in fact, her skill in driving the car was very minutely described, and following this announcement came offers of pictures of the famous car.

Automobilists naturally were very much interested in the announcement, not only because Miss Roosevelt, daughter of the first lady in the land, has a most interesting personality and a circle of friends much wider than her acquaintances, but also because of the semi-official recognition of the automobile as a means of locomotion by the President. Now it turns out that Miss Roosevelt never owned the machine at all, that it was offered to her gratis, and the President not only declined the offer when it came to his knowledge, but that he insisted on paying rental for the time it had been in use. Aside from any question of propriety a man who believes he can "work" President Roosevelt for a free advertisement is not possessed of the common or garden variety of sense. We imagine that should the President run across this gentleman he will be likely to get a brief insight into the strenuous life.

## AUTOMOBILIST SUES POLICEMAN.

Suit to recover \$2,000 damages from a New York policeman or "bicycle cop" has been brought by an automobilist named Parker. Mr. Parker was traveling up 5th Avenue in New York a few evenings ago in a touring car, with three friends—all four are practising lawyers in New York. Between 35th and 36th Streets, Policeman Debes rode alongside and arrested Mr. Parker, who was later released on bail at the station house. Next morning, before a city magistrate, the police officer swore that the automobile was moving at about 20 miles an hour, while the motorists and his friends testified that the speed did not exceed 7 miles an hour. The case was dismissed and later the suit against the policeman to recover damages for false arrest was commenced by Mr. Parker.

We sincerely trust that he will push this to a finish. The indiscriminate arrest of automobilists by policemen has become so common in New York that a dose of their own medicine is about the only remedy left. Doubtless the officers act under instructions from "higher up," as it is good politics, so far as a very large class of voters are concerned, to be "down on" the automobile. The police situation in New York is becoming serious, and those in power ride rough shod over the common rights of the citizens. It would be an act of public benefit to force the police to obey the very laws they are sworn to obey.

Only a few days ago several pool room raids made by the New York police resulted in the arrest of nearly 600 persons. When their cases came up for trial in the police court all but eight were dis-



charged, a representative of the District Attorney's office having declared the arrests illegal. The highhandedness of the police officials has even called forth a public protest by a Justice of the Supreme Court in Brooklyn, William J. Gaynor.

### MONTREAL RUN ABANDONED AS A RELIABILITY CONTEST.

Following a conference last week between officers of the Automobile Club of America, and the National Association of Automobile Manufacturers, it was definitely decided at a meeting of the board of governors of the club held last Monday to abandon the proposed reliability run to Montreal in October in deference to the desire of the manufacturers to manage a reliability run to Pittsburg this fall.

The meeting of governors was attended by Acting President W. E. Scarritt, Jefferson Seligman, George T. Chamberlain, Peter Cooper Hewitt and Sidney Dillon Ripley. After the meeting Mr. Scarritt said that if the manufacturers prefer to handle reliability contests themselves, the club is satisfied to have them do so as the club does not seek the task, which is an arduous one. He stated that it had not been positively decided whether or not the club will conduct the run to Montreal as a long distance tour by private owners.

Ten new members were admitted to the club at the meeting.

### Case School Automobile Laboratory.

*Special Correspondence.*

CLEVELAND, June 29.—The growing importance of the automobile industry has induced the Case School of Applied Science of this city to pay particular attention to this new branch of engineering, and a laboratory for the study of automobile equipment is to be fitted up in time for the opening of the fall course. Manufacturers of automobiles are being asked to donate different articles of equipment for the laboratory. It is believed this is the first scientific school in the country to equip a laboratory of this kind, and the probabilities are that it will be called into frequent service in testing various kinds of equipment for Cleveland manufacturers.

### One Transcontinentalist Gives Up.

Robert H. C. Brock, who started from his home at 1612 Walnut street, Philadelphia, on May 14, to make a transcontinental automobile tour, is reported to have abandoned the undertaking somewhere west of Chicago, specific place not known to his friends, and to have proceeded the rest of the way to the Pacific Coast by easy stages on the train instead of in his 24-horse power touring car.

The Chicago Motor Vehicle Co. has recently appointed E. Vinton Earle and W. J. McDonald, 31 State St., Boston, its New England agents.

## Massachusetts Automobile Law Signed by Governor Bates.

*Special Correspondence.*

BOSTON, June 27.—The new Massachusetts automobile law was signed by Governor Bates yesterday. In brief, it requires automobiles and automobilists to be registered with the State Highway Commission before September 1 of this year. It adds numerous other restrictions to the old law, without changing the old speed limits of ten miles in cities and fifteen miles in the open. The automobilists tried to induce the Legislature to extend the limit to twelve and twenty miles, respectively, but were unsuccessful. They did succeed, however, in having the Legislators modify some severe penalties which were proposed by the anti-automobile contingent. The new law in full is as follows:

### AN ACT

To provide for registering Automobiles and Motor Cycles and for licensing Operators thereof.

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

SECTION 1. All automobiles and motor cycles shall be registered by the owner or person in control thereof in accordance with the provisions of this act. Application for such registration may be made, by mail or otherwise, to the Massachusetts highway commission or any agent thereof designated for this purpose, upon blanks prepared under its authority. The application shall, in addition to such other particulars as may be required by said commission, contain a statement of the name, place of residence and address of the applicant, with a brief description of the automobile or motor cycle, including the name of the maker, the number, if any, affixed by the maker, the character of the motor power, and the amount of such motor power stated in figures of horse power; and with such application shall be deposited a registration fee of two dollars. The said commission or its duly authorized agent shall then register, in a book to be kept for the purpose, the automobile or motor cycle described in the application, giving to such automobile or motor cycle a distinguishing number or other mark, and shall thereupon issue to the applicant a certificate of registration. Said certificate shall contain the name, place of residence and address of the applicant and the registered number or mark, shall prescribe the manner in which said registered number or mark shall be inscribed or displayed upon the automobile or motor cycle, and shall be in such form and contain such further provisions as the commission may determine. A proper record of all applications and of all certificates issued shall be kept by the commission at its main office, and shall be open to the inspection of any person during reasonable business hours. The certificate of registration shall always be carried in some easily accessible place in the automobile or motor cycle described therein. Upon the sale of any automobile or motor cycle, its registration shall expire, and the vendor shall immediately return the certificate of registration to the highway commission, with notice of the sale, and of the name, place of residence and address of the vendee.

SECTION 2. Every manufacturer of or dealer in automobiles or motor cycles may, instead of registering each automobile or motor cycle owned or controlled by him, make application upon a blank provided by said commission for a general distinguishing number or mark, and said commission may, if satisfied of the facts stated in said application, grant said application, and issue to

the applicant a certificate of registration containing the name, place of residence and address of the applicant, and the general distinguishing number or mark assigned to him, and made in such form and containing such further provisions as said commission may determine and all automobiles and motor cycles owned or controlled by such manufacturer or dealer shall, until sold or let for hire or loaned for a period of more than five successive days, be regarded as registered under such general distinguishing number or mark. The fee for every such license shall be ten dollars.

SECTION 3. Except as otherwise provided herein, no automobile or motor cycle shall, after the first day of September in the year nineteen hundred and three, be operated upon any public highway or private way laid out under authority of statute, unless registered as above provided, and the registered number or mark of every automobile and motor cycle operated as aforesaid shall at all times plainly be displayed thereon in Arabic numerals not less than four inches long, and conforming in this and other details to the requirements prescribed by the highway commission in its certificate of registration.

SECTION 4. Licenses for operating automobiles and motor cycles shall be issued by the Massachusetts highway commission or duly authorized agents thereof. Application shall be made upon blanks prepared by the commission for this purpose, and the licenses issued shall be in such form and shall contain such provisions as said commission may determine. To each licensee shall be assigned some distinguishing number or mark, and a proper record of all applications for license and of all licenses issued shall be kept by the commission at its main office, and shall be open to the inspection of any person during reasonable business hours. Each license shall state the name, place of residence and address of the licensee and the distinguishing number or mark assigned to him. Special licenses for operating automobiles or motor cycles for hire shall be issued by the commission, but no such license shall be issued until the commission or its authorized agent shall have satisfied itself or himself that the applicant is a proper person to receive it. Such licenses shall be granted for one year only. The fee for each license to operate shall be two dollars. All fees shall be deposited at the time of making the applications. The commission may at any time suspend or revoke any license for any misconduct of the licensee. Before a license to operate is granted, the applicant shall pass such examination as to his qualifications as may be required by the state highway commission.

SECTION 5. Except as hereinafter provided, no person shall, on or after the first day of September in the year nineteen hundred and three, operate an automobile or motor cycle upon any public highway or private way laid out under authority of statute, unless licensed so to do under the provisions of this act. No person shall operate an automobile or motor cycle for hire, unless specially licensed by the commission so to do. No person shall employ for hire as chauffeur or operator of any automobile or motor cycle any person not specially licensed as aforesaid, and every chauffeur or operator for hire shall, while so acting, display the distinguishing number or mark assigned to him, in such manner as may be prescribed by the commission.

SECTION 6. Automobiles or motor cycles owned by non-residents of this state and driven by persons residing and licensed in some other state may be operated on the roads and highways of this state, subject, however, to the speed limitations contained in section eight, and to any local regulations permitted under section fourteen, and to such further regulations as the highway commission may make. The provisions of this sec-

tion shall not prevent the operating of automobiles by unlicensed persons if riding with or accompanied by a licensed chauffeur or operator.

SECTION 7. Every person having control or charge of an automobile or motor cycle shall, whenever upon any public street or way and approaching any vehicle drawn by a horse or horses, or approaching any horse upon which any person is riding, operate, manage and control such automobile or motor cycle in such manner as to exercise every reasonable precaution to prevent the frightening of such horse or horses, and to insure the safety and protection of any person riding or driving the same. And if such horse or horses appear to be frightened, the person in control of such automobile or motor cycle shall reduce its speed, and if requested by signal or otherwise by the rider or driver of such horse or horses, shall not proceed farther towards such animal unless such movement be necessary to avoid accident or injury, or until such animal appears to be under the control of its rider or driver, and in case of extreme fright shall reduce the motive power to a full stop.

SECTION 8. No automobile or motor cycle shall be run on any public way or private way laid out under the authority of statute outside the limits of a city or the thickly settled or business part of a town or fire district at a speed exceeding fifteen miles an hour, or within a city or the thickly settled or business part of a town or fire district at a speed exceeding ten miles an hour. Upon approaching a crossing of intersecting ways, also in traversing a crossing or intersection, and in going around a corner or a curve in the highway every person operating an automobile or motor cycle shall run it at a rate of speed less than that hereinbefore specified and at no time greater than is reasonable and proper, having regard to traffic and the use of the way and the safety of the public, and in no event exceeding eight miles an hour.

SECTION 9. The commission may, after due hearing, suspend or revoke a certificate issued under section one of this act, or the license issued to any person under section four of this act, for any cause which it may deem sufficient; and any person convicted of violating any provision of this act shall be punished by a fine not exceeding twenty-five dollars for a first offence, and not exceeding fifty dollars for second and subsequent offences. Any person convicted of operating or causing or permitting any other person to operate an automobile or motor cycle after a revocation or suspension of the certificate or license granted under this act for such vehicle shall be punished by a fine not exceeding one hundred dollars, or by imprisonment for a term of ten days, or by both such fine and imprisonment.

SECTION 10. Every automobile or motor cycle operated in this Commonwealth shall be provided with an adequate brake, with a muffler, and with a suitable bell, horn or other means of signalling, and shall, during the period from one hour after sunset to one hour before sunrise, display lights, with the registered number or mark thereon, of such size as may be prescribed by the highway commission.

SECTION 11. Every automobile or motor cycle shall be provided with a lock, key or other device to prevent said vehicle from being set in motion, and no person shall allow any such vehicle operated by him to stand or remain unattended in any street, avenue, road, alley, highway, park, parkway or other public place without first locking or making fast the vehicle as above provided.

SECTION 12. The fees received under the provisions of this act shall be paid monthly by the secretary of the highway commission into the treasury of the Commonwealth; and such expenses as may be necessary in carrying out the provisions of this act shall be paid out of the treasury of the Commonwealth.

SECTION 13. The terms automobile and motor cycle as used in this act shall include all vehicles propelled by power other than muscular power, excepting railroad and railway cars and motor vehicles running only upon rails or tracks, and steam road rollers.

SECTION 14. Nothing herein contained shall be so construed as to affect the rights of boards of park commissioners as authorized by law. Boards of aldermen of cities and the selectmen of towns may make special regulations as to the speed of automobiles and motor cycles, and as to the use of such vehicles upon particular roads or ways, including the right to exclude them altogether therefrom. Such exclusion, however, shall be subject to an appeal to the Massachusetts highway commission, whose decision in the case shall be final. No such special regulation shall be effective unless notice of the same is posted conspicuously at the points where any road affected thereby joins other roads.

SECTION 15. Chapter three hundred and fifteen of the act of the year nineteen hundred and two is hereby repealed.

SECTION 16. Except as otherwise provided herein, this act shall take effect upon its passage.

### TOUR TO MAMMOTH CAVE BEGUN BY CHICAGO CLUB.

#### *Special Correspondence.*

CHICAGO, June 27.—The most ambitious automobile club run ever undertaken in America was begun last Thursday, when fifteen touring cars carrying members of the Chicago Automobile Club and their wives left the Michigan Avenue club house at 11 o'clock for a round trip tour of 1,000 miles to Mammoth Cave, Kentucky.

Several hundred persons gathered to see the start, which had been scheduled for 10 o'clock, and the large veranda of the club house was crowded with friends to bid the tourists God speed, and wish them good luck. The weather, which had been unseasonably cold and wet for weeks, was fortunately pleasant, and the departing travelers were in happy mood over an auspicious start.

They had begun to gather with their cars as early as 8 o'clock, and for three hours the club house and garage were the scene of interesting activity as the preparations for the long run went forward. The cars were critically examined, water and gasoline tanks were filled to the limit, oil reservoirs and grease cups were replenished, and extra parts and clothing, food and wet goods were packed into storage compartments and hampers. All were fully equipped for bad weather and expected hardships. Newspaper men and photographers circulated among the crowd and all of the cars were photographed with their occupants aboard just before they got away.

When the word was finally given the procession moved off down the boulevard amid cheers and waving hands and handkerchiefs. Among the starters who intend to make the entire trip were the following:

A. Scott Ormsby and wife, J. E. Frey (Winton) G. L. Gray and daughter (Cadillac), F. J. Hyman, wife and two daughters (Peerless); W. R. Smith, wife, son and J. W. Thorson (Toledo); Charles E. Bartley and wife, Robert W. Spangles and C. E. De Friest (Peerless), J. B. Burdett and wife and J. E. Stevens and wife (covered Darracq), W. G. Lloyd, wife, and daughter,

and H. A. Brown (Peerless); Dr. F. H. Davis (Peerless).

The procession followed Michigan avenue to 79th street, crossed over to Coney Island boulevard and followed that road over the Indiana State line, and on to Hammond, where lunch was served. After a short rest the party drove on to Cedar Lake, Ind., where arrangements had been made for the first night's stop.

The second day's run was to be to Lafayette, seventy-five miles, a committee of the Lafayette Automobile Club meeting the tourists at Cedar Lake, and escorting them all the way. The third day's stage was to be from Lafayette to Indianapolis.

### Tourists Entertained in Lafayette.

#### *Special Correspondence.*

LAFAYETTE, Ind., June 27.—The tourists of the Chicago Automobile Club, on their way to Mammoth Cave, arrived here last night at 11 o'clock. There were only fourteen in the party, a number of the tourists having returned to Chicago from Cedar Lake. Those who reached Lafayette report a fine trip on Friday and stated it was the most enjoyable they ever had.

A committee from the Indianapolis Club, fifteen strong in five automobiles, anticipated the arrival of the Chicagoans, and reached Lafayette first, at 4 o'clock yesterday afternoon. Among them was Mayor Bookwalter, who is an enthusiastic motorist. The delegation and the men of the Chicago party were entertained by Samuel Murdock at the Lafayette Club. The women being tired retired immediately.

The combined party did not get started for Indianapolis this morning until 11 o'clock. Charles W. Gray, president of the Chicago Club, was unable to leave Chicago with the others, but left Friday morning and hopes to overtake them between Indianapolis and Richmond.

In the Indianapolis party were George W. Panghorn, Fred Ayres, Ralph Bamberger, Samuel P. Stoddard, Dr. G. R. Allen, Charles Summers, H. O. Smith, Colonel Rockwood, Hon. C. A. Bookwalter, Conrad Mueller and son, Otto N., George A. Weidley, J. Edward Krause, Robert Zenner and E. W. Sticky.

### Indianapolis Delegation Meets Tourists.

#### *Special Correspondence.*

INDIANAPOLIS, June 27.—A reception committee of the Automobile Club of Indiana made a run in their cars to Lafayette last night to meet the Mammoth Cave tourists from Chicago. The Chicago club members were found to be laboring under many difficulties with machines and tires due in large measure to the bad roads. All but twelve of the party had dropped out before reaching Lafayette. Some of the committee members left the tourists at Kirklin, thirty miles out of Indianapolis, and returned home, but most



of them staid with the party to give any assistance possible in case of further difficulties.

Plans had been made to entertain the visitors here this evening, but they were abandoned.

### RESOLUTIONS OPPOSING ROAD RACING ADOPTED BY MOTOR LEAGUE.

Influenced probably by the accidents in the Paris-Madrid contest in France, the executive committee of the American Motor League, at a recent meeting, placed that body on record as opposed to all racing of automobiles and motor cycles on the public highways by the adoption of resolutions as follows:

*Whereas* numerous accidents resulting from the racing of automobiles on the public roads have demonstrated the extreme danger of such practice and have justified a sentiment against it on the part of all conservative users of power vehicles, and

*Whereas* the equal rights, under the law of all persons, at all times in the use of the public highways for the purpose of travel and traffic cannot be maintained under any statute, general or local, which permits such highways to be set apart for the purpose of a mere speedway for vehicles of whatever class or kind, and

*Whereas* the development of the use of the automobile and its increase in popular favor depend upon the demonstrations of its safety, convenience, comfort and economy rather than upon its capacity for excessive speed under perilous conditions, therefore,

*Resolved*, That the American Motor League while pledging its hearty support to all reasonable tests by which the power, capacity, endurance and other valued qualities of motor vehicles may be determined, and to speed tests upon race tracks properly so called, is opposed to any and every proposition for the racing of automobiles or other motor vehicles upon the public roads.

It will be remembered that the Automobile Club of America took much the same action immediately after the disaster in the speed trials on Staten Island, on May 31, a year ago, when the governors passed a special resolution that that accident "has convinced the governors of the club that it is unwise to hold speed trials with automobiles on the public highways, and that the governors of this club will not hold or consent to the holding of such contests by the club."

An automobile "hand book" and a book on touring and routes is being published by the American Motor League, and President Potter is compiling a book on automobile law, to be published this year. More than 300 official League hotels and supply stations have been appointed during the past two months.

### Weigall Does Kilometer in 28 Seconds.

London dispatches last week announced that D. M. Weigall had made a flying kilometer in 28 seconds on June 26, the trial being officially timed. This is at the rate of 79.8 miles an hour. C. S. Rolls claims that his record was 27 seconds.

At St. Paul, Minn., a new ruling requires the numbering of autos with figures not less than four inches in height.

### LABOR TROUBLES CAUSE CLEVELAND BUILDERS TO SEEK NEW LOCATION.

*Special Correspondence.*

CLEVELAND, June 29.—Despite numerous reports to the contrary, it is probable that another year will find the Peerless Motor Car Company located in a large factory in some other city. The officials of the company like Cleveland and believe there is advantage in being located at the center of the industry, but the frequent labor troubles seem to make it desirable for the company to remove to some other city. The purpose is to build a factory in a small town where the employes will settle and buy their own homes. Factories so located are seldom troubled with strikes. The company is looking at factories at Canton, Akron, Erie, and a number of other cities, but has not yet arrived at a decision. The best location and the most desirable proposition will secure a factory which at present is turning out several vehicles per day. Already the Peerless Company has begun taking orders for next season, although the new models have not yet been completed. The sales booked for 1904 include one \$11,000 racer, eleven 35-horsepower, four cylinder cars, and thirty-five 20-horsepower, two cylinder cars. All of these were sold from blue prints.

### Progress of Packard Overlanders.

*Special Telegram.*

PLACERVILLE, Cal., June 23.—A camping outfit was bought in Sacramento and gasoline distributed as far along the route as Salt Lake. Rough roads have been encountered throughout to-day, but to-morrow we reach the summit of the Sierras.

CARSON, Nev., June 24.—To-day we drove over both summits without a hitch, and yesterday from Placerville to Sugar Loaf. To-day we rose 1,800 feet in one hour and dropped 2,400 feet in thirty-seven minutes; also 800 feet in nine minutes. Crossed the Sierras where they were never crossed before by automobile.

WADSWORTH, Nev., June 26.—Arrived here at 6 o'clock, with the car in first-class condition and making twelve miles to the gallon of gasoline.

### Dr. Jackson's Cross Country Progress.

*Special Correspondence.*

CLEVELAND, June 29.—The Winton Motor Carriage Company is much interested in the progress being made by Dr. H. Nelson Jackson, of Burlington, Vt., who started on May 23 in a Winton 20-horsepower touring car from San Francisco with the intention of making a continuous tour to New York. During the past few days the Winton company has received successive telegrams from Dr. Jackson from points in Wyoming, and from the character of his orders it appears that he is having much trouble with tires. It is not known here whether or not Mr.

Jackson made all this distance in his car, but it seems probable that he did; in which event he has got farther than Mr. Winton did in his attempt to cross the continent. The car and equipment was bought from the Pioneer Automobile Company, of San Francisco, and the Winton Company denies that it had any connection with the project or that it is backing Mr. Jackson in the trip.

### ENTRIES FOR MOTOR CYCLE ENDURANCE RUN TO WORCESTER.

Thirty-five entries have been received for the three-days' endurance contest for motor cycles promoted by the New York Motor Cycle Club and the Metropole Cycling Club, beginning July 3. This is two more than last year. The course is over the route of the A. C. A. 500-mile reliability run to Boston last fall, but the turning point is at Worcester, making the entire run 396 miles. Two of the entries are from St. Paul.

The list in part is as follows:

Frank Zirbes, Roscoe, Wis., (Mitchell); C. S. Mankowski, New York (Mitchell); C. N. Emerson, Lowell, Mass. (Auto-Bi); J. W. White, New York, (Merkel); W. E. Luettgens, South Manchester, Conn. (Marsh); A. R. Marsh, Brockton, Mass., (Marsh); A. A. Hoyt, Whitman, Mass., (Marsh); W. T. Marsh, Brockton, Mass., (Marsh); George P. Jenkins, New York, (Marsh); J. H. Bartlett, New Britain, Conn., (Marsh); William D. Wahrenberger, New York, (Hercules); G. N. Rogers, Schenectady, N. Y., (Merkel); B. F. Doherty, New Britain, Conn., (own make); Samuel McKim, New York, (Mitchell); George B. Piefer, Brooklyn, (Indian); Frank E. Domina, Providence, R. I., (Auto-Bi); Lincoln Holland, Worcester, Mass., (Auto-Bi); F. Alton Clark, Union City, Conn., (Auto-Bi); Charles M. Burnham, Waltham, Mass., (Marsh); John E. Oost, New York, (Werner); David D. Miller, New York, (Orient); I. M. O'Malley, Hartford, Conn., (Columbia); Walter I. Ziegler, Elmwood, Conn., (Columbia); N. P. Bernard, Hartford, Conn., (Columbia); Frank A. Brown, Utica, N. Y., (Warwick); W. A. Roberts, Clinton, Conn., (Warwick); and Ellery C. Fisher, Brockton, Mass., (Auto-Bi).

### Program of Columbus Races July 4.

*Special Correspondence.*

COLUMBUS, O., June 29.—The following program has been arranged for the Fourth of July races by the Columbus Automobile Club: Three-mile open, for gasoline machines under 1,200 pounds; five-mile open for steam machines under 1,800 pounds; five-mile special exhibition by Barney Oldfield; five-mile pursuit race open to all machines barring Oldfield's racer; five-mile open for gasoline cars over 1,800 pounds; five-mile open motor bicycle race; one-mile exhibition by Oldfield; three-mile open for gasoline machines 1,200 to 1,800 pounds; ten-mile open handicap.

The Columbus Club now has nearly 100 members.

The Cleveland Automobile Co. is finishing up about two machines per day but is experiencing annoying delays owing to the inability to secure prompt deliveries of wheels.

## News and Trade Miscellany.

Mayor Miller, of Providence, R. I., has succumbed to the fever, and has just become owner of a Knox waterless carriage.

The Robinson & Fleming Company has opened a garage on Fifty-fourth street, near Broadway, New York.

George A. Banker, of Banker Brothers, was joined in marriage last week to Miss Marie Pomeroy, of New Haven, where the wedding took place.

Miss Margaret Farley, of Jersey City, noted as an expert operator, expects to start about July 1 in her automobile on a tour to Buffalo. She will be accompanied by a party.

An automobile section is planned as one of the leading features of a parade to be held in Providence on July 4, and the members of the Rhode Island Automobile Club have entered into the plan with enthusiasm.

A new charging station for electric vehicles has just been established at Yonkers, N. Y., on the premises of William Shrive, at 20 Main street and 6 Mill street, by the Yonkers Electric Light & Power Company.

The Globe Power Company, of Buffalo, has been incorporated to manufacture power machinery and automobiles. Capital, stock, \$200,000. Directors, William F. Hoffman, Elmer E. Hoover and George H. Hoover.

The Westchester Automobile Company, of New York, has rented the Ocean House stables at Newport, R. I., and will conduct a storage and repair station there during the season.

Baron Speck von Sternberg, the new German Ambassador at Washington, has become an enthusiastic automobilist. He recently purchased an electric automobile and is often seen with it on the streets and suburban roads.

W. N. Murray and wife, of Cleveland, with their chauffeur, are on an eastern trip in their new car built by the Berg Automobile Company. It is of the "white ghost" type and is provided with storm top and glass windows.

The Corbin Motor & Vehicle Corporation, of New Britain, Conn., has made application to the secretary of state for articles of incorporation. Capital stock \$200,000. The incorporators are Philip Corbin, H. S. Hart, Chas. M. Jarvis.

Several lines of auto coaches have been established in the boulevards and parks of Chicago for the summer. The busses leave central points downtown morning, afternoon and evening for trips north, west and south.

Charles W. Gray, president of the Chicago Automobile Club, which recently suspended A. C. Banker from membership for fast driving, was recently arrested on a charge of exceeding the speed limit on

Jackson boulevard, but was dismissed in court for lack of evidence.

The Automobile Club, of Syracuse, has decided to hold an automobile race matinee on July 4, either at the state fair grounds or at Kirk Park.

Harry Raser, an enterprising farmer, of Ashtabula, O., has hitched his automobile to the plow and turned straight furrows, has hauled logs with it and mowed meadows in record time.

P. L. Hussey, formerly with the Snell company of Toledo, has established himself in a factory in Cleveland under the name of the Hussey Drop Forging & Mfg. Co. He will manufacture steering wheels, drop forgings and a number of other specialties.

The Berkshire (Mass.) Automobile Club has issued a mandatory order warning its members against excessive speeding on the public roads within the city limits of Pittsfield. A violation of the order will be punished by expulsion from the club.

It has been erroneously reported that the large four-cylinder touring car made by the Packard Motor Car Co., of Warren, Ohio, would be sold at a much lower price than the present figure, \$7,500. The Packard people are authority for the statement that the price has not been reduced.

Mr. and Mrs. Charles J. Glidden, of Lowell, Mass., sailed June 16 for England to make an automobile tour in Europe and Norway. They will endeavor to reach a point within three degrees of the Arctic Circle. Mr. Glidden expects to drive a new Napier machine, which was to be ready for him on his arrival at London.

Angier & Whitney, of Boston, have been appointed representatives for the Cudell cars in the New England States, and will have temporary headquarters at 43 Columbus avenue, Boston. They will have for demonstration cars a 25-horsepower King of the Belgians tonneau car, two 16-horsepower cars, one 12-horsepower car and one 8-horsepower delivery wagon.

Grand Rapids, Mich., club has a membership of about 50 members. A program for the touring season includes excursions to many points of interest within a day's run from that city. At least 30 members of the Chicago Club have accepted an invitation to visit Grand Rapids in the fall and attend some of the touring parties. Some speed contests are also scheduled on the club's program.

Mr. Donald Donald, of Masterson, New Zealand, when in Cleveland recently, placed an order with the Hoffman Automobile & Mfg. Co., for fifteen machines several of which have been shipped, going by way of New York and England, as the shipping rates are lower that way than for

the shorter route by way of San Francisco. New Zealanders are thoroughly alive to the charm of the new sport.

Eighteen one-ton electric wagons have just been completed for the Adams Express Company, of New York, which for the past two years has been experimenting with steam trucks. The new wagons weigh two tons each, have a carrying space 7 feet by 3 feet 7 inches back of the seat, have a radius of travel of thirty-five miles on one charge, and are geared to a maximum speed of ten miles an hour.

The farmers of East Tennessee are aroused on the subject of road improvement, and especially enthusiastic for the plan of co-operation between the State and Nation. At the recent East Tennessee Farmers' Convention, with an attendance of 1,200 men, the Brownlow Bill was unanimously endorsed, being especially commended as a means of improvement in the country schools.

Automobiles are invading the priesthood. The Catholic residents of Graniteville, Mass., made a present of Grout steamer to their pastor, Rev. Edmund T. Schofield, a fortnight ago, calling him out upon the lawn after the Father had celebrated 9 o'clock mass, to make the presentation. Father Szukalski, of St. Cyril Methody Parish at Milwaukee, is also owner of an automobile, in which he makes parish calls and emergency visits to sick beds.

The executive committee of the New York and Chicago Road Association has decided to have its representatives go over the proposed route of the improved inter-metropolis highway in an automobile again this summer, making longer stays in each large center than was possible last year. Arrangements are being made for the holding of good roads meetings in these places, and to give a series of illustrated lectures with views of the proposed route.

The Cleveland Automobile Company, of Cleveland, is casting about for another location. It is probable that a change will not be made this summer, but the present arrangements are not conducive to economical operation, since the company is doing its body making in one shop, its assembling in another and the finishing and shipping in a third. It has its machine work done to order, but desires to combine under one roof the three departments mentioned.

The Rochester, (N. Y.) Automobile Club made its initial run June 16, to Summerville and return, the members, with numerous friends, taking dinner at the Rochester Yacht Club house. The trip was a success and the club believes that future runs will attract more owners. The Rochester club was organized two months ago with a membership of about 100. About 250 machines are owned in the city, and officers of the club hope to have their owners included in the membership before the season is over.

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